UNITED STATES MILITARY ACADEMY

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1961-1962

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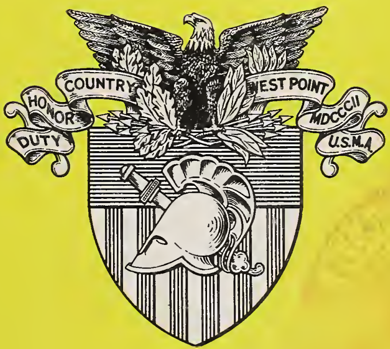
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1961-1962

UNITED
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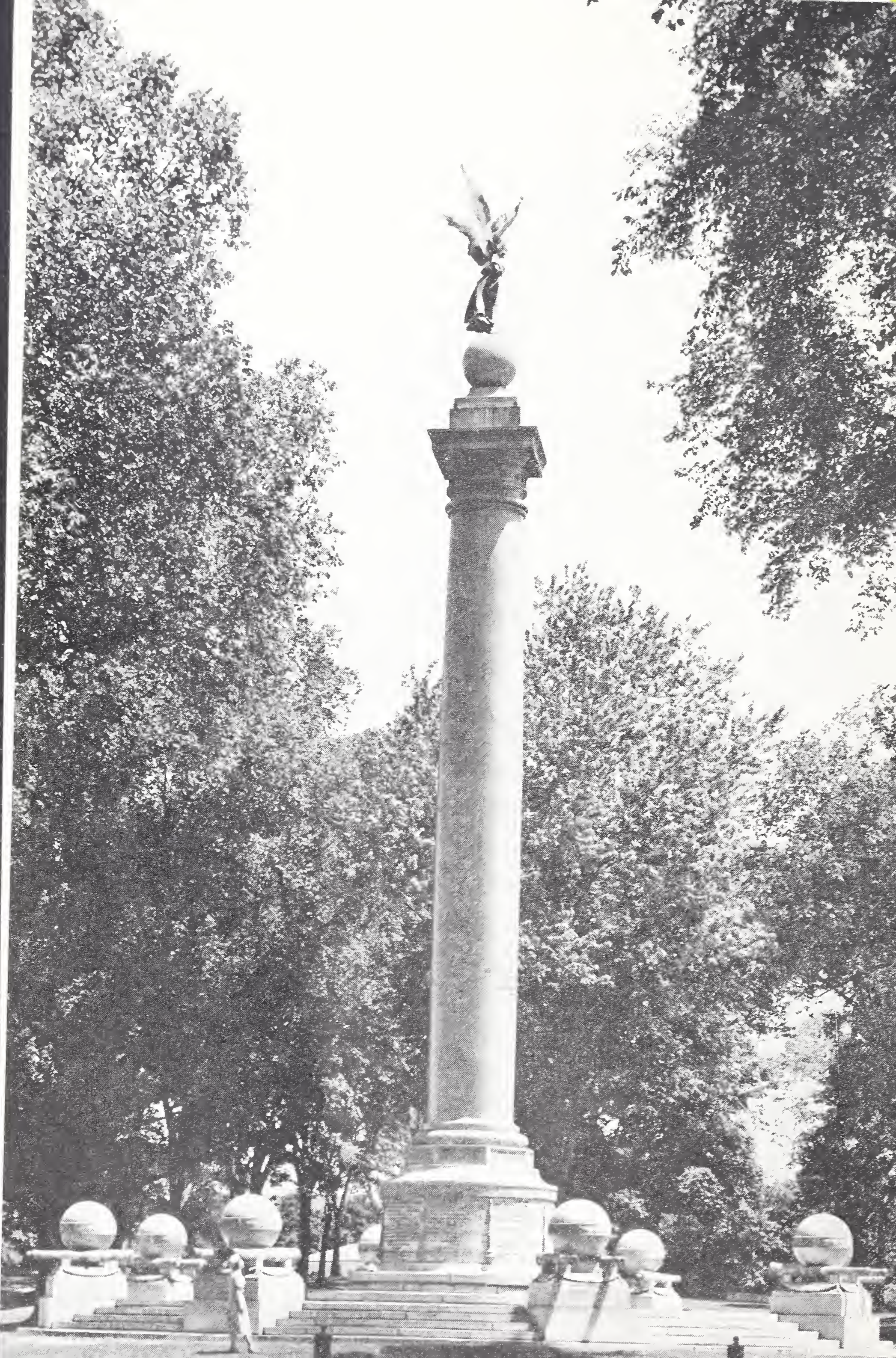
MILITARY
ACADEMY



UNITED
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CATALOGUE

1961 1962

One Hundred and Sixtieth Year

1961

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CALENDAR, 1961-1962

1961

4 July	Tuesday	Independence Day. Duties suspended.
5 July	Wednesday	New Fourth Class enters. (Class of 1965.)
8 August	Tuesday	Re-examination of cadets deficient on second term-end examinations.
26 August	Saturday	Ex-cadets report for readmission, 12:00 noon.
4 September	Monday	Labor Day. Duties suspended.
5 September	Tuesday	First term begins.
11 November	Saturday	Veterans Day. Classes suspended.
23 November	Thursday	Thanksgiving Day. Classes suspended.
2 December	Saturday	First College Board test date for all Competitive Candidates.
22 December	Friday	Christmas leave for three upper classes begins at 3:15 P.M.

1962

3 January	Wednesday	Christmas leave for three upper classes ends at 5:30 P.M.
13 January	Saturday	Final College Board test date for all Competitive Candidates.
18 January	Thursday	Ex-cadets report for readmission.
20 January	Saturday	First term ends at 12:00 noon.
22 January	Monday	Second term begins. Term-end examinations begin.
24 January	Wednesday	Term-end examinations completed.
22 February	Thursday	Washington's Birthday. Classes suspended.

28 February	Wednesday	Medical, physical aptitude, and preferred series of College Entrance Examination Board tests begin at designated military stations.
22 March	Thursday	Spring leave for three upper classes begins at 3:15 P.M.
25 March	Sunday	Spring leave for three upper classes ends at 6:00 P.M.
27 March	Tuesday	Re-examination of ex-cadets.
30 May	Wednesday	Memorial Day. Duties suspended.
31 May	Thursday	Second term ends.
1 June	Friday	Term-end examinations begin
3 June	Sunday	Baccalaureate Sunday.
4 June	Monday	Term-end examinations completed.
6 June	Wednesday	Graduation.
12 June	Tuesday	Special medical, physical aptitude, and College Entrance Examination Board tests begin at West Point for candidates applying for admission July 3.
3 July	Tuesday	New Fourth Class enters. (Class of 1966.)

1961 ARMY FOOTBALL SCHEDULE

23 September—University of Richmond at West Point

30 September—Boston University at West Point

7 October —University of Michigan at Ann Arbor

14 October —Pennsylvania State University at University Park

21 October —University of Idaho at West Point

28 October —West Virginia University at West Point

4 November —University of Detroit at West Point

11 November —College of William & Mary at West Point

18 November —University of Oklahoma at New York City

2 December —Navy at Philadelphia

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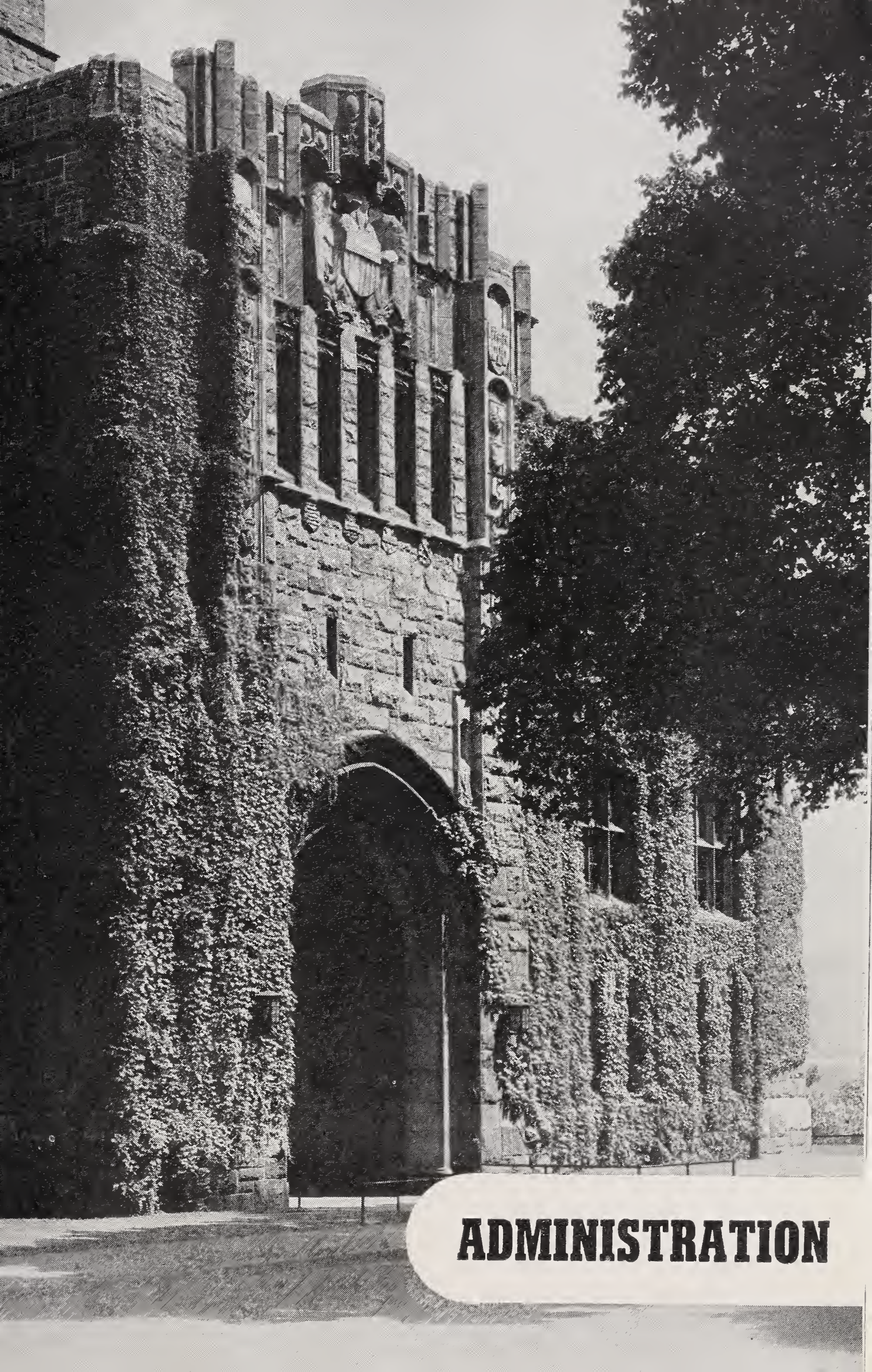


ADMINISTRATION

MISSION OF THE MILITARY ACADEMY

The mission of the United States Military Academy is to instruct and train the Corps of Cadets so that each graduate will have the qualities and attributes essential to his progressive and continued development throughout a lifetime career as an officer of the Regular Army.

Inherent in this mission are the objectives:

1. Mental—To provide a broad collegiate education in the arts and sciences leading to the Bachelor of Science degree.

2. Moral—To develop in the cadet a high sense of duty and the attributes of character with emphasis on integrity, discipline, and motivation essential to the profession of arms.

3. Physical—To develop in the cadet those physical attributes essential to a lifetime career as an officer of the Regular Army.

4. Military—To provide a broad military education rather than individual proficiency in the technical duties of junior officers. Such proficiency is, of necessity, a gradual development, the responsibility for which devolves upon the graduates themselves and upon the commands and schools to which they are assigned after being commissioned.

ACADEMY STAFF

The United States Military Academy is under the jurisdiction of the Deputy Chief of Staff for Military Operations, Department of the Army, who exercises direct supervision and control of the Military Academy for the Chief of Staff, United States Army, and the Secretary of the Army.

The immediate government and military command of the Academy and the military post at West Point are vested in the Superintendent. Subordinate to the Superintendent is the Dean of the Academic Board who acts as representative of the academic departments and as advisor on academic matters to the Superintendent. The administration and training of the Corps of Cadets are in charge of the Commandant of Cadets, who is also head of the Department of Tactics.

Superintendent	MAJ. GEN. WILLIAM C. WESTMORELAND, USA
Aides-de-Camp	CAPT. ROBERT L. WETZEL, INF. CAPT. ROBERT E. CAMP, ARTY.
Commandant of Cadets	BRIG. GEN. RICHARD G. STILWELL, USA
Deputy Commandant	COL. KENNETH W. COLLINS, INF.
Dean of Academic Board	BRIG. GEN. WILLIAM W. BESSELL, JR., USA
Assistant to the Dean	LT. COL. JESS P. UNGER, CE
Chief of Staff	COL. ROBERT L. ASHWORTH, GS
Registrar	LT. COL. ROBERT S. DAY, USA

THE MILITARY ACADEMY

The United States Military Academy exists for the specific purpose of developing highly qualified individuals for a lifetime career in the United States Army. Its cadets share in a great heritage—a heritage fostered by the achievement, honor, and glory of a never-ending stream of graduates. The roster of the Long Gray Line includes the names of Grant, Lee, Pershing, Patton, MacArthur, Eisenhower, and thousands of others who have dedicated themselves to the service of their country. Because its graduates are expected to assume responsibilities of vital, national importance, the Military Academy seeks the type of individual who possesses a strong determination to follow in the footsteps of his predecessors by accepting the challenge inherent in the rigorous life of a cadet. Experience has proved that the young man who is endowed with a sense of adventure, an intellectual curiosity, physical stamina, a high sense of duty, strong character, pride in the accomplishment of difficult tasks, and a sincere ambition to succeed in the military profession will be guaranteed success and satisfaction as a cadet and an officer.

The student body at West Point is called the United States Corps of Cadets. A member of the Corps is expected to display at all times the attributes of leadership, character, manliness, and integrity that are requisite in the fulfillment of the requirements of the military service. In addition, he must be willing to contribute to the maintenance of the tradition of accomplishment for which the Corps is so well known.

CORPS ORGANIZATION

The approximately 2,500 cadets of the Corps, organized into 24 companies of about 100 men each, follow a Brigade organization with two regiments. Each regiment is organized into three battalions with four companies in each battalion.

In command of the Brigade is the Cadet Brigade Commander (Cadet First Captain) who has a staff of a Brigade Adjutant, a

Brigade Training Officer, and a Brigade Supply Officer. The two Cadet Regimental Commanders have corresponding staffs, as have the six Battalion Commanders.

A Cadet Company Commander is in charge of each company, with subordinate cadet officers in command of the smaller units.

PAY AND ALLOWANCES

Cadets are members of the Regular Army and, as such, receive pay and allowances as provided by pertinent statutes. Cadets currently receive $111.15 a month, from which they must pay for their uniforms, textbooks, and incidentals. Quarters, rations, and medical care are provided. The pay and allowances received are adequate to cover all expenses.

LEAVES OF ABSENCE AND HOLIDAYS

During the academic year (September-May), duties are suspended for about 12 days at Christmas and four days in March, at which time members of the three upper classes may be granted leaves of absence. The three upper classes also receive leaves of four weeks during the summer period (June-August), the remainder of the time being devoted to practical military instruction. Duties for all classes are suspended on national holidays.

PROMOTION UPON GRADUATION

When a cadet has completed the course of instruction and meets the required physical standards he is, upon graduation, promoted and appointed a second lieutenant in the Regular Army. A maximum of 12½ per cent of the graduating class may be commissioned in the Navy, Marine Corps, or Air Force if they so choose.

PROGRAM OF GRADUATE STUDIES

On the basis of the strong foundation which the Military Academy has laid, the graduate moves progressively forward as he builds his Army career. He strengthens his military qualifications by pursuing advanced courses at his branch school and later by attendance at the various high level war colleges. His academic abilities are likewise strengthened and augmented by his attendance at leading civilian graduate schools. Nearly 70 per cent of the Academy's graduates take post-graduate work at civilian institutions.

THE HONOR CODE

The development of character and integrity in the members of the Corps of Cadets is a basic objective of the Academy. The Cadet Honor Code and System is officially recognized as a primary means by which this character development is accomplished.

Since the earliest days of recorded history, the requirement for integrity in the military leader has been universally recognized. Colonel Sylvanus Thayer, the Father of the Military Academy, determined that the Academy should produce graduates possessing leadership integrated with excellence of character and excellence of knowledge. Since his day an Honor Code and System has been fostered by the authorities of the Academy and zealously maintained by the Corps. General MacArthur, shortly after World

War I, was instrumental in formalizing the Honor Code and System and making it an officially recognized tool for the building of character. Today, the Honor Code is the proudest possession of the Corps and of the "Long Gray Line" of graduates.

The Honor Code requires complete integrity in both word and deed of all members of the Corps and permits no deviation from those standards. Not only is the cadet expected to tell the truth on all occasions, but he also avoids quibbling or evasive statements. In the classroom a cadet does his own work. He will neither cheat, nor will he take unfair advantage of his classmates. The maintenance of these high honor standards is the responsibility of each cadet and each cadet is expected to report himself or any other cadet for violations of the Honor Code. These exacting standards are complied with to the letter, and if any cadet violates them he is immediately separated from the Corps of Cadets.

The Honor System is an integral part of the Honor Code and in its simplest form is the method by which the Honor Code is applied to the highly organized life of a cadet. As an example, cadets may leave their rooms simply by marking their absence cards. This marking is accepted as the cadet's word that his absence is authorized and that he is not violating certain regulations. Cadets are also often required to indicate by signature that they have complied with official instructions. All of these devices are part of the Honor System and result in the cadet's making decisions based solely on his sense of honor many times a day during his entire four years at the Academy. This constant stress on honor soon trains the cadet to live automatically by the most rigid standards of honor, making the honorable decision almost by reflex.

For its success the Honor Code depends upon the Corps. Each year the Second Class selects from among its members an Honor Committee which, during First Class Year, will interpret the Code to the Corps, explain the principles upon which it is based, and guard against violation of the Code. Its procedures follow a set pattern, and its members have responsible authority. One of its most important tasks is to supervise the indoctrination of the new cadets in the principles of the Code. The indoctrination of a new cadet is intensive, commencing the day he arrives at West Point and continuing until after the beginning of academic classes in the fall. It includes informal discussions, as well as scheduled lectures. It is soon apparent to new cadets that all cadets share an inherent pride in constantly abiding by the Code. The realization that they are assumed to be willing to accept and adhere to the Code creates in new cadets an intense and prideful desire to play an active part in the Honor System. This realization, combined with the indoctrination program, results in raising the varying moral standards of an entering class to the common high plane which the Corps has established, and expects from its members.

Another major responsibility of the Honor Committee is to guard against the appearance of practices which are inconsistent with the Honor Code, thus insuring that the high standards of the Code are maintained and perpetuated. The Committee has no punitive powers, its functions being entirely investigative and advisory. If a cadet is reported to the Commandant for an honor violation, the Commandant has a careful investigation made. Through the course of this investigation, the rights of the cadets are protected in accordance with the provisions of the Uniform Code of Military Justice.

The devotion of the Corps to the Honor Code is very strong. In the opinion of both cadets and graduates, it is the most vital part of their training and education at the Academy and makes the most lasting impression. The almost sacred regard of the Corps for its Honor Code is best exemplified by the words of the Cadet Prayer which states in part: "Make us to choose the harder right instead of the easier wrong, and never to be content with a half truth . . . Endow us with courage that is born of loyalty to all that is noble and worthy, that scorns to compromise with vice and injustice and knows no fear when truth and right are in jeopardy . . . Help us to maintain the honor of the Corps untarnished and unsullied, and to show forth in our lives the ideals of West Point in doing our duty to Thee and to our country . . ."

APTITUDE FOR THE SERVICE

The Aptitude for the Service System functions in accord with the basic responsibility of the Academy to produce officer leaders for the Armed Forces. The system assists in the maximum development of the leadership capabilities of each cadet and insures that graduates meet the standards required by the Army. The procedures of the system provide for evaluation of the leadership potential of each cadet, counselling and guidance in those areas in which any weakness is detected, and separation of any cadet who proves incapable of achieving the required standard of leadership.

The evaluation of cadet leadership is accomplished primarily through a program of confidential ratings by officers and cadets. Twice a year each cadet rates all cadets of his company who are in his class or lower classes. The ratings are made by arranging the cadets in each class within the company in an order of merit based on observed leadership ability.

In addition to the rating by other cadets, each cadet is similarly rated by his Company Tactical Officer. The rating by the Tactical Officer is an extremely important one since this officer has been selected for his job because of proven leadership ability. It is he who has studied carefully the cadets in the company and has counselled and advised each cadet.

A relative standing in Aptitude for the Service for each cadet is established by mathematically combining the ratings of the Tactical Officer and cadets. The cadet standings are not published but the cadet and his parents are informed of his general ranking within the class. The objective ratings are supplemented in certain instances by descriptive comments regarding performance of specific duties and overall potential.

The Tactical Officer plays a key role in the counselling and guidance phase of the system. He conducts a series of interviews with each cadet in which he discusses any weakness shown, along with its probable cause, and counsels him in the means of improvement.

If over an extended period of time the cadet appears incapable of overcoming his deficiency and attaining the leadership standards required, his records are carefully studied by a board of senior officers of the Department of Tactics. The board interviews the cadet and such other cadets and officers as necessary for a thorough evaluation of the case. The board may recommend that a cadet be declared proficient or deficient. The Commandant reviews the proceedings of the Aptitude Board and refers those cases involving deficiency to the Superintendent for action by the Academic Board wherein they are handled in the same manner as deficiency in an academic subject. A cadet found deficient in Aptitude for the Service by the Academic Board may be placed in a conditioned status until the next rating or he may be separated. All cases involving separation are referred to the Department of the Army for final approval.

Deficiency in Aptitude for the Service does not mean that a young man is unsuited for a successful career in life. It does mean that in the considered opinion of his officer supervisors and his fellow cadets he is not suited for a career as an officer of the Armed Forces.

ACADEMIC BOARD

The Academic Board consists of the Superintendent, the Dean of the Academic Board, the Commandant of Cadets, the Heads of the Academic Departments, and the Registrar. Its responsibilities include the determination of standards and procedures for, and the control of operations involving the appointment of candidates; the admission, readmission, advancement from class to class, and the graduation and commissioning of cadets; and the establishment of the course of studies and methods of instruction.

Superintendent, and President of the Board	MAJ. GEN. WILLIAM C. WESTMORELAND, USA; B.S.
Commandant of Cadets, and Head of the Department of Tactics	BRIG. GEN. RICHARD G. STILWELL, USA; B.S.
Dean of the Board	BRIG. GEN. WILLIAM W. BESSELL, JR., USA; B.S., C.E.
Professor, and Head of the Department of Earth, Space and Graphic Sciences	COL. LAWRENCE E. SCHICK, USA; B.S. (Until 1 October 1961) COL. CHARLES R. BROSHOUS, USA; B.S., M.S. in C.E. (Effective 1 October 1961)
Electricity	COL. ELLIOTT C. CUTLER, JR., USA; B.S., M.S. in E.E., PH.D.
English	COL. RUSSELL K. ALSPACH, USA; B.A., M.A., PH.D.
Foreign Languages	COL. CHARLES J. BARRETT, USA; B.S.
Law	COL. CHARLES W. WEST, USA; B.S., LL.B.
Mathematics	COL. CHARLES P. NICHOLAS, USA; B.S.
Mechanics	COL. ELVIN R. HEIBERG, USA; B.S., C.E.

Military Art and Engineering	COL. VINCENT J. ESPOSITO, USA; B.S., M.E.
Military Hygiene	COL. PHILIP W. MALLORY, MC; M.D.
Ordnance	COL. JOHN D. BILLINGSLEY, USA; B.S., M.E., M.B.A.
Physics and Chemistry	COL. EDWARD C. GILLETTE, JR., USA; B.S., M.S. in E.E.
Social Sciences	COL. GEORGE A. LINCOLN, USA; B.S., B.A., M.A.
Registrar, and Secretary to the Board	LT. COL. ROBERT S. DAY, USA; B.S., M.S.

In addition to the Dean, the Professors (except Military Hygiene), and the Registrar, as indicated above, the following are also permanent professors of the Military Academy:

Professor and Deputy Head of the Department of Earth, Space and Graphic Sciences	COL. WILLIAM W. WATKIN, JR., USA; B.S., M.S. in C.E.
Electricity	LT. COL. EDWARD A. SAUNDERS, USA; B.S., M.S. in E.E.
English	COL. EDWIN VAN V. SUTHERLAND, USA; B.S., M.A.
Foreign Languages	COL. WALTER J. RENFROE, JR., USA; B.S., M.A.
Mathematics	COL. JOHN S. B. DICK, USA; B.S., M.E., M.S.
Mechanics	COL. HARVEY R. FRASER, USA; B.S., M.S., PH.D.
Military Art and Engineering	COL. CHARLES H. SCHILLING, USA; B.S., M.S. in C.E., PH.D.
Physics and Chemistry	COL. JOHN R. JANNARONE, USA; B.S., M.S.
Social Sciences	COL. AMOS A. JORDAN, USA; B.S., B.A., M.A., PH.D.
Professor and Director of Physical Education	COL. FRANK J. KOBES, JR., USA; B.A., B.S., M.A.

BOARD OF VISITORS

The custom of a Board of Visitors for West Point goes back almost to the year of its founding. On 1 July 1815, "A Regulation for the Government of the Military Academy," approved by Secretary of War William H. Crawford, provided for the appointment of a Board to consist of five "competent gentlemen," with the Superintendent as President, who should attend at each of the annual and semiannual examinations at West Point and report thereon to the Secretary.

The Boards are appointed at present under the provisions of an act of Congress approved 29 June 1948. This act specifies that a Board of Visitors shall visit the Military Academy each year and inquire into the state of morale and discipline, curriculum, instruction, physical equipment, fiscal affairs, academic methods, and other matters relating to West Point which the Board may decide to consider, and submit a written report to the President of the United States giving its views and recommendations pertaining to the United States Military Academy. The personnel of the Board shall be as follows:

a. The Chairman of the Committee on Armed Services of the Senate;

b. Three other Members of the Senate to be appointed by the Vice President, two of whom shall be members of the Committee on Appropriations of the Senate;

c. The Chairman of the Committee on Armed Services of the House of Representatives;

d. Four other Members of the House of Representatives to be appointed by the Speaker of the House of Representatives, two of whom shall be members of the Committee on Appropriations of the House of Representatives;

e. Six persons to be appointed by the President.

BOARD OF VISITORS 1961

Appointed by the President of the United States	GEN. OMAR N. BRADLEY, USA, Chairman of the Board, Bulova Watch Co., New York, N.Y.
	DR. EDWIN D. HARRISON, President, Georgia Institute of Technology, Atlanta, Ga.
	DR. GEORGE L. CROSS, President, University of Oklahoma, Norman, Okla.
	DR. HARLAN HATCHER, President, University of Michigan, Ann Arbor, Mich.
	MR. ROBERT T. STEVENS, President, J. T. Stevens & Co., New York, N.Y.
	MAJ. GEN. LEIF J. SVERDRUP, USAR-Ret., Sverdrup and Parcel Engineering Co., St. Louis, Mo.
Appointed by the Vice President of the United States	SEN. HENRY C. DWORSHAK, Idaho
	SEN. ALAN BIBLE, Nevada
	SEN. EUGENE J. McCARTHY, Minnesota
Appointed by the Speaker of the House of Representatives	REP. WILLIAM H. NATCHER, Kentucky
	REP. OLIN E. TEAGUE, Texas
	REP. R. WALTER RIEHLMAN, New York
	REP. WILLIAM E. MINSHALL, Ohio
Ex-Officio Members of the Board	SEN. RICHARD B. RUSSELL, Georgia
	REP. CARL VINSON, Georgia (represented by REP. L. MENDEL RIVERS, South Carolina)

ADMISSION

ADMISSION

In one major respect the requirements for admission to the Military Academy differ from the normal requirements for admission to a civilian college or university: a prospective candidate must first obtain a nomination from an authorized nominating source before he is permitted to be examined for entrance to the Academy.

A young man who is interested in pursuing a career in the military service and who wants to build this career on a West Point education should review the various sources of nomination to the Academy, as explained in the section on Nominations, and determine which sources are authorized to nominate him. The great majority of nominations (85 percent) are available from Members of Congress for residents of their States or Districts, but an applicant should also determine whether he is eligible to apply for nomination in one of the competitive categories.

The Admission Section is divided into the following four parts:

1. Requirements. A prospective candidate should fulfill the basic requirements for admission and the recommended academic preparation.

2. Nominations. A prospective candidate should obtain a nomination from an authorized nominating source.

3. Examinations. A candidate should take the required entrance examinations in accordance with instructions supplied to all candidates by The Adjutant General, Department of the Army, and the Registrar, USMA.

4. Appointment. A candidate will receive notification from Department of the Army of qualification and appointment to fill the vacancy for which he was nominated.

REQUIREMENTS

In order for a young man to be eligible for appointment to the Military Academy, he must meet the following general requirements:

Age. On 1 July of the year he is to be admitted, a candidate must have attained the age of 17 years and must not have reached the age of 22. The age requirements for all candidates are statutory and cannot be waived.

Citizenship. A candidate must be a citizen of the United States, except those appointed specifically as foreign cadets.

Marital Status. A candidate must never have been married. A cadet may not marry until he has graduated from the Academy; if any cadet is found to have been married, he will be immediately separated from the Academy.

Character. Each candidate's record must show positive evidence that he is responsible, trustworthy, emotionally stable, and of good moral character.

Potential Leadership. Each candidate's record should include information concerning the effectiveness of his personality and the extent to which he has participated in school and community affairs.

Motivation. A candidate should have a strong desire to become a cadet and pursue a military career. Experience has indicated that lack of motivation frequently results in failure to remain at the Academy.

Physical Condition. A candidate must be physically fit. It is recommended that the prospective candidate check with his private doctor and dentist to determine that he meets the medical considerations as outlined in appendix I.

Prior Education. A candidate should have satisfactorily completed a college-preparatory secondary-school education or its equivalent by the time he enters the Academy and must show by his scholastic record that his preparation, as outlined below, is adequate. Every candidate must submit his entire scholastic record.

ACADEMIC PREPARATION

The kind and amount of preparation a candidate brings to the Academy are of vital importance to his successful pursuit of the academic courses at West Point. Once the academic year begins, the pace is rapid and basic knowledge of fundamental secondary-school subjects is assumed. A well-prepared cadet, therefore, finds himself in an enviable position.

The majority of candidates admitted to the Military Academy enter directly from secondary schools. Those who have graduated in the upper portion of their high-school classes and have attained good grades in their mathematics and English courses should be able to qualify academically for admission without intensive cramming or special preparation. Experience has shown that in order to pursue successfully the academic courses at the Military Academy, a candidate should have completed four years of English, at least three years of mathematics but preferably four, two years of a foreign language, a year of laboratory science, and a year of United States History. The candidate's scholastic record must show adequate preparation in these respects in order for him to qualify for admission. Furthermore, his preparation should include additional courses in the mathematical sciences, social sciences, and the humanities.

Candidates unable to obtain appointments for admission to the Military Academy immediately following graduation from secondary school are encouraged to attend a civilian college or university pending receipt of an appointment to West Point. The undergraduate courses taken by the candidate should be substantial ones which will further prepare him for the rapid pace and high standards of academic accomplishment that are required at West Point.

For the guidance of prospective candidates and their counselors the recommended preparation in English, mathematics, foreign languages, sciences, and United States History are shown in the following paragraphs. The lists of topics desirable in secondary-school courses are intended to be suggestive rather than prescriptive or exhaustive.

ENGLISH—COMPOSITION

Grammar, spelling, and punctuation.
Types of paragraphs and methods of developing paragraphs.
Organization of themes.
The techniques of summarizing.
Methods of research and use of the library.
Practice in speechmaking.

ENGLISH—LITERATURE

Ability to read with reasonable speed and good comprehension.
Familiarity with major patterns of writing, such as the essay, the drama, the short story, and the novel.
Some acquaintance with poetic forms, such as epic, narrative, dramatic monologue, ode, and sonnet.
Some familiarity with meter, stanza forms, and figures of speech.
Acquaintance with several plays of Shakespeare.
Some knowledge of representative English and American writers.

MATHEMATICS—GENERAL

In order to succeed in mathematics at USMA, the candidate should have completed at least three years of college preparatory mathematics to include algebra, geometry, and trigonometry as outlined below. It is especially important that the USMA applicant be studying mathematics in the year of school immediately preceding his intended enrollment at West Point, as this will facilitate his rapid adjustment to the demanding requirements at the Academy. A fourth year of college preparatory mathematics is urged for all who have the opportunity for such instruction in their precollege academic training. Moreover a fourth year is **essential** for those who wish to study mathematics at West Point beyond the minimum required for graduation: see page 21 for comments pertaining to the Advanced Program.

The scope of preparation recommended in algebra, geometry, and trigonometry is given in the following sections:

MATHEMATICS—ALGEBRA

Emphasis in this area is placed on the following qualifications: (1) firm grounding in basic concepts and definitions; (2) a facility with basic techniques; and (3) the ability to apply logical analysis to the solution of problems. The candidate should be prepared in the following:

- Applications of the fundamental operations.
- Special products and factors.
- Operations with fractions.
- Radicals; fractional and negative exponents.
- Systems of linear and quadratic equations.
- Rectangular coordinates; the graphing of linear and quadratic equations in one and two variables.
- Ratio, proportion, variation.
- Common logarithms and applications.
- Progressions, arithmetic and geometric.
- The binomial theorem; the binomial formula with fractional and negative exponents.
- Mathematical induction.
- Elementary numerical trigonometry.

MATHEMATICS—GEOMETRY

As with algebra, careful preparation in the fundamentals of plane geometry and selected topics from solid geometry is necessary. The candidate should possess: (1) a knowledge of the basic concepts, definitions, and theorems of plane geometry; (2) an acceptable understanding of the nature of direct and indirect proof, and a facility with careful deductive reasoning as evidenced by his ability to prove standard theorems; (3) familiarity with the geometric properties of common plane figures, (4) a knowledge of spatial relationships, particularly those pertaining to lines and planes in space; and (5) familiarity with the definitions and geometrical properties of prisms, pyramids, cylinders, cones and spheres. The candidate should be prepared in the following:

- Congruency theorems, and related theorems on triangles.
- Inequalities of lines and angles.
- Parallel and perpendicular lines.
- Properties of quadrilaterals.
- Circles: chords, central angles, arcs, tangents, secants.
- Concurrent lines.
- Similar triangles.
- Areas of polygons.
- Constructions.

The area of a circle as a limit.
Relations of lines and planes in space.
Definitions and properties of prisms, pyramids, cylinders, cones and spheres.

MATHEMATICS—TRIGONOMETRY

In this subject the following qualifications are emphasized: (1) a knowledge of the concept of function and precise definitions of trigonometric functions of any angle; (2) thorough familiarity with the basic trigonometric identities; and (3) ability to apply logical analysis to the solution of problems. The candidate should be prepared in the following:

Angles and their measure, standard position.
Trigonometric functions of angles and real numbers.
The Unit Circle.
Graphs of functions in rectangular and polar coordinates.
Applications of logarithms to trigonometry.
Fundamental identities, trigonometric equations.
Double and half-angle formulas.
Product, sum and difference formulas, and applications.
Solution of oblique triangles, law of cosines and law of sines
DeMoivre's Theorem, complex numbers.

MATHEMATICS—ADVANCED PROGRAM

This program includes 1½ semesters of mathematics beyond that required as standard for graduation to USMA. It is offered to selected cadets whose pre-USMA academic record shows: (1) high quality of performance in the standard preparation outlined above in algebra, geometry and trigonometry; (2) not less than 4 years of college-preparatory mathematics; (3) active study of mathematics during the final year before entering the Military Academy. A cadet whose pre-USMA record satisfies these requirements must also achieve high standing in mathematics during his early months at West Point in order to be admitted to the Advanced Program. A candidate aspiring to this program is urged to take the Advanced rather than the Intermediate Mathematics achievement test of the College Board.

FOREIGN LANGUAGES—PREPARATION

Two years of high-school study of any foreign language will normally prove a helpful background for any of the languages taught at West Point. Those interested in taking one of the advanced language courses would do well to take three years of the same language (French, German, or Spanish) before entering the Academy. For those interested in studying Portuguese, previous courses in Latin and/or Spanish are advisable. For those desiring to study Russian, courses in either Latin or German, or preferably both, are recommended. (If previous Russian study is possible, it would, of course, provide the best preparation.) Regardless of the language studied, applicants should concentrate on the basic organization of the language, including word forms and functions and sentence structure; on basic vocabulary, to include the common idiomatic expressions; and on accurate pronunciation and proper intonation in word groups and sentences. Courses offering extensive practice in speaking and aural comprehension, without ignoring the fundamentals of the language, should provide excellent preparation for the courses at the Military Academy.

FOREIGN LANGUAGES—ADVANCED PROGRAM

Standard courses in five modern languages are offered at West Point: French, German, Portuguese, Russian, and Spanish. Each cadet studies one of these languages during his first two years at the Academy. Cadets are normally assigned to study the language of their choice; but it is sometimes necessary to assign a cadet to the language of second choice, in cases where quotas are oversubscribed. Advanced courses are conducted (during the same time and in lieu of the standard courses) in French, German, and Spanish, for those who qualify in a special placement examination consisting of several written parts, a dictation, an aural comprehension test, a passage to be read aloud, and oral replies to a number of simple questions in the language. A minimum of two years of high-school study of the language or one year of college study is the prerequisite for consideration for the advanced course. Cadets who have completed two years of high-school study but who fail to qualify for the advanced course may normally take the standard course in the same language. Cadets having more than two years of previous high-school study or more than one year of college study must, if they do not qualify for the advanced course in that language, select another language for study at the Military Academy.

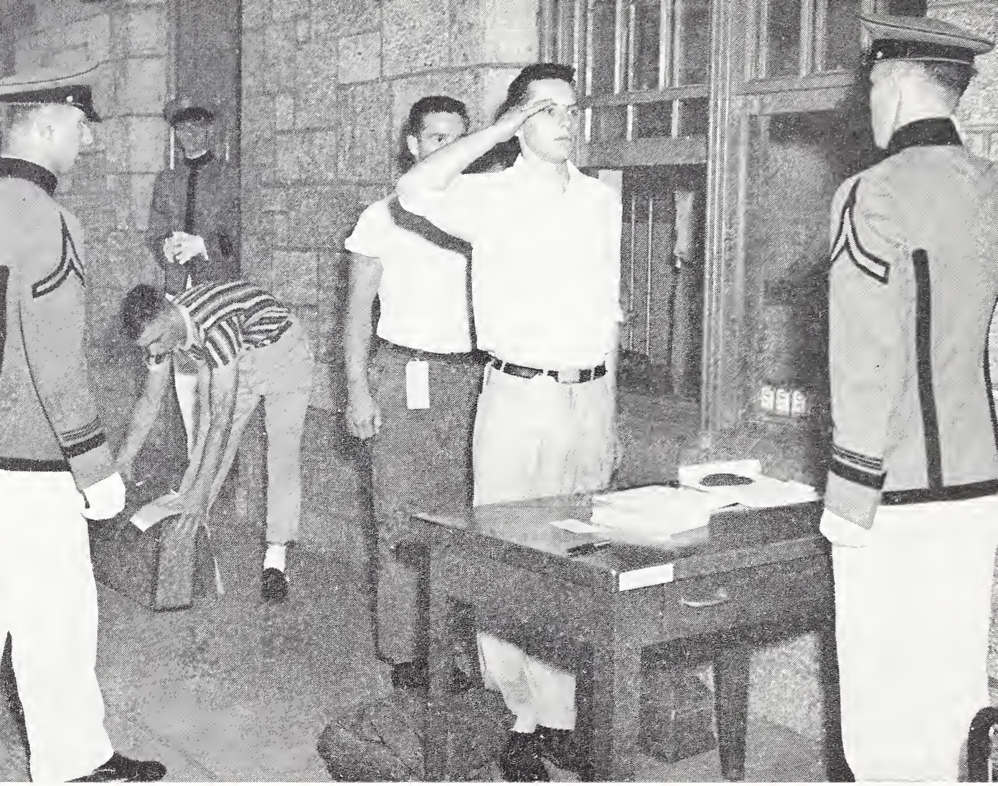
SCIENCE

Preparation should include, as a minimum, a standard secondary-school course (including laboratory) in general science, physics, or chemistry. Experience has indicated the desirability of including all three courses in secondary-school preparation.

UNITED STATES HISTORY

The candidate should know the facts and understand the chronological and other relationships concerning the major developments in American History, to include:

Settlement and growth of the English Colonies.
The American Revolution.
Growth of American democratic institutions.
Expansion of the United States.
The Civil War.
Economic development of the United States.
Growth of American Social and Cultural patterns.
International Relations.



New Cadets Report in July.

NOMINATIONS

Before a young man may be authorized to take the required entrance examinations—academic, medical, and physical aptitude—to qualify for admission, he must apply for, and obtain, an official nomination.

The cadetships authorized at the Military Academy are allocated as follows:

A. CONGRESSIONAL

Source of Nomination	*Number*
437 Representatives (4 each)	1,748
100 Senators (4 each)	400
Vice Presidential	3
District of Columbia	6

A. CONGRESSIONAL—Continued

Source of Nomination	*Number*
Canal Zone	2
Puerto Rico	4
	2, 163
B. COMPETITIVE	
Army and Air Force:	
Regular Components	90
Reserve Components	90
Presidential	89
Sons of Deceased Veterans	40
Honor Military and Naval Schools	40
	349
C. SONS OF MEDAL OF HONOR WINNERS	Unlimited
D. FOREIGN CADETS	24

Graduation of the senior class normally leaves about 750 of these cadetships vacant and hence available to new candidates each year.

A prospective candidate should examine carefully the sources of nomination to determine those he is eligible to seek and the procedures for applying. A prospective candidate may obtain more than one nomination in any given year.

Having determined the proper nominating sources in his case, a prospective candidate should submit an application to the pertinent authorities, requesting a nomination to the Military Academy. No special application form is required, a regular business letter is all that is necessary. In his application, he should give his residence, state briefly his reasons for wanting to enter the Academy, and name the secondary schools and colleges he attended, listing the courses he has taken and the grades received. He also should list his extracurricular activities: class offices, clubs, publications, debate, athletics, Boys State, Boy Scouts, and any awards and honors received in each activity.

A. CONGRESSIONAL

Nominations from these sources are entirely in the hands of the nominating authorities who have the cadetships at their disposal, and all requests for nomination must be addressed to them. The law requires that candidates nominated from the states at large, congressional districts, the District of Columbia, the Canal

Zone, or the island of Puerto Rico, be domiciled in the geographical unit from which nominated.

The Vice President nominates from the United States at large. United States Senators nominate from their respective states at large. Representatives in Congress nominate from their districts. The Commissioners of the District of Columbia nominate in the District. The Governor of the Canal Zone nominates from among the sons of civilians residing in the Canal Zone and sons of civilian personnel of the United States Government and the Panama Canal Company residing in the Republic of Panama. The Resident Commissioner nominates for Puerto Rico.

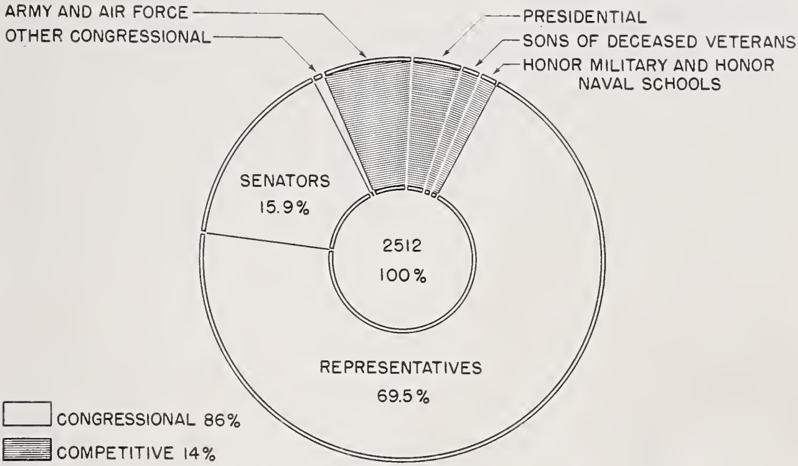
Most of these authorities conduct preliminary screening examinations to facilitate their selection of nominees. Prospective candidates, therefore, are encouraged to apply for Congressional nominations at least a year prior to the July of admission.

Congressional: Principal-Alternate Method. Members of Congress utilizing this method may nominate four candidates, one being named as principal, one as first alternate, one as second alternate, and one as third alternate. The first alternate, if qualified, will be admitted if the principal fails; the second alternate, if qualified, in case the principal and first alternate both fail; and the third alternate, if qualified, in case all other three candidates fail.

Congressional: Competitive Method. In many cases members of Congress, upon making their four nominations for each vacancy, ask the Academic Board, USMA, to select the best qualified of their nominees. Such nominees are termed "**Congressional Competitors.**" Congressional competitors must submit College Board scores from the December, January, or March test administration.

B. COMPETITIVE

Appointments to vacancies within the competitive categories are awarded to the best-qualified candidates within each group. A candidate for one of these vacancies can qualify only by taking the College Board examinations at the December (Saturday, 2 December 1961) or January (Saturday, 13 January 1962) College Board test administration. Failure of a competitive candidate to take the December or January College Board tests—regardless of the circumstances—will vacate his nomination. After receipt of the December or January test results, those competitive candidates disqualified academically for admission will not be examined



Sources of Nomination

medically or in physical aptitude in March. There is no restriction on the residence of a competitive candidate. A description of the competitive nomination categories follows:

(1) Army and Air Force:

One hundred and eighty (180) cadetships at the Military Academy are divided equally between enlisted men of the United States Army and the United States Air Force as follows: Ninety (90) from the Regular components (Regular Army and Regular Air Force); Ninety (90) from the Reserve components (National Guard of the United States, the Air National Guard of the United States, the Army Reserve, and the Air Force Reserve).

Admission of candidates to fill Regular component vacancies is made from among all Regular Army and Regular Air Force competitors regardless of the command from which nominated; to fill Reserve component vacancies, from among all National Guard, Air National Guard, Army Reserve, and Air Force Reserve competitors regardless of the State, District, or command from which nominated. A joint Army-Air Force publication, AR 350–55, AFR 53–13, gives detailed instructions for making application for Regular and Reserve component nominations. This publication may be obtained from the nearest Army or Air Force installation or by writing to The Adjutant General, Washington 25, D.C., ATTN: AGPB-M.

(2) Presidential:

Eighty-nine (89) cadetships comprise the Presidential quota. For over a century these appointments have been reserved by each President for the sons of members of the regular components of the Army, Air Force, Navy, Marine Corps, and Coast Guard, who are still in service, retired, or who died while serving. The administration of these appointments has been delegated to the Department of the Army. Applications by those eligible should be made by letter (no prescribed form) addressed to The Adjutant General, Department of the Army, Washington 25, D.C., ATTN: AGPB-M, giving the name, grade, service number, and branch of service of the parent as a member of such regular component; and the full name, address, and date of birth of the applicant (complete military address and service number if in the Armed Forces). Adopted sons are eligible for appointment if they were adopted prior to their fifteenth birthday; a copy of the order of court decreeing adoption, duly certified by the clerk of the court, must accompany the application.

(3) Sons of Deceased Veterans of World Wars I or II or the Korean Conflict:

Forty (40) cadetships are provided for the sons of members of the Armed Forces of the United States who were killed in action or who died of wounds, injuries, or disease resulting from active service during World Wars I or II or between June 27, 1950, and midnight of January 31, 1955. The Veterans' Administration determines the eligibility of all applicants, and its decisions are final and binding on the Department of the Army. Application should be made by letter (no form is prescribed) addressed to The Adjutant General, Washington 25, D.C., ATTN: AGPB-M. The letter should state the full name, date of birth, and address of the applicant (complete service address should be given if the applicant is in the Armed Forces), and the name, grade, service number, and last organization of the veteran parent, together with a brief statement concerning the time, place, and cause of death. The claim number assigned to the veteran parent's case by the Veterans' Administration should also be furnished.

(4) Honor Military and Honor Naval Schools:

Forty (40) cadetships are provided for Honor Military and Honor Naval schools. Each such school of the essentially military type, as determined by annual Departments of the Army and

Navy inspections, may nominate three candidates annually from among its honor graduates, to compete for admission. The number of available vacancies will be filled in order of merit, regardless of the schools from which the candidates are nominated. Each nomination must contain a certification by the head of the institution that the candidate is an honor graduate of a year for which the institution was designated an honor military or naval school. However, the institution is not limited to those graduates of the current year.

C. SONS OF MEDAL OF HONOR WINNERS

Sons of recipients of the Medal of Honor may be nominated and appointed to the Military Academy. The administration of these nominations has been delegated to the Department of the Army. Application by those eligible should be made by letter (no form is prescribed) to The Adjutant General, Washington 25, D.C., ATTN: AGPB-M. The letter should contain the applicant's full name, address, and date of birth (complete service address should be given if the applicant is in the Armed Forces), the name, grade, and branch of service of the parent and a brief statement of the date and circumstances of the award. Candidates nominated from this source may qualify in the same manner as a Congressional principal candidate. All who are found fully qualified will be admitted as cadets, regardless of the number.

D. FOREIGN CADETS

By mutual agreement between the United States and the countries concerned, young men from the foreign countries listed below may be designated to take the entrance examinations and, if qualified, be authorized to receive instruction at the Military Academy. Applications must be submitted to the United States Government through diplomatic channels by the government concerned. Requirements for the admission, advancement from class to class, and graduation of foreign cadets are similar to those for cadets of the United States. Foreign cadets are not entitled, however, by reason of their graduation, to appointment in the Armed Forces of the United States. Foreign cadets receive the same pay and allowances as cadets appointed from the United States.

Republic of the Philippines. One Filipino, selected on the basis of scores on the entrance examination from among those designated by the President of the Republic of the Philippines, may be authorized to enter with each class and receive instruction at the Military Academy.

American Republics. A total of not more than 20 citizens of the American Republics may receive instruction at the Military Academy at any one time. Not more than three persons from any one country may be cadets at the same time.

Other Foreign Countries. Citizens of other foreign countries have been permitted from time to time to attend the Military Academy upon specific authorization of the United States Congress in each case.

QUALIFIED ALTERNATES AND QUALIFIED COMPETITORS

When it is determined that the number of new cadets of an entering class will not bring the Corps to its authorized strength, the Academic Board may recommend for appointment qualified candidates, regardless of the vacancies for which they were nominated. Thus, a young man who is fully qualified to enter the Military Academy but who did not receive the appointment to the particular vacancy for which he was competing will still be considered for appointment to enter the Academy as a qualified candidate. No application by the individual is necessary or desired, for all qualified candidates are considered by the Academic Board. In making its selection the Board considers the following factors: academic ability based upon the candidate's entire scholastic record; character and other personal attributes, as shown by confidential statements furnished by principals, teachers, and other school officials; evidence of exceptional capabilities; and leadership potential. Cadets admitted upon recommendation of the Academic Board are not charged to the Congressional or Competitive quotas under which they were originally nominated.

REAPPLICATIONS

A candidate who is not selected for a class entering the Academy may reapply for a nomination and qualify for appointment as a cadet in a subsequent year. Policies as to whether results of previously taken examinations will be considered in such cases are set forth in the section on Examinations.

EXAMINATIONS

Upon receipt of a candidate's nomination from a nominating authority, The Adjutant General, Department of the Army, will send the candidate a letter of notification. This letter officially authorizes the candidate to take the academic, medical, and physical aptitude examinations required to establish qualification for appointment to enter the Military Academy to fill the vacancy for which nominated. The candidate also receives detailed instructions covering such matters as submission of transcripts of scholastic records and personal-history data.

ACADEMIC EXAMINATION

A candidate's academic qualification is determined by an analysis of his entire scholastic record and his performance on prescribed tests of the College Entrance Examination Board. Each candidate must submit his entire scholastic record. The College Board tests which have been adopted by the Military Academy are—

- Scholastic Aptitude Test
- Achievement Tests in—
  - English Composition
  - Intermediate or Advanced Mathematics*

Although not required submission of a well-written College Board Writing Sample will be considered additional evidence of academic qualification. However, candidates are urged to take the Writing Sample test.

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*Scores on either the Intermediate or Advanced Mathematics achievement test will be accepted by the Military Academy. No adjustment is made on the scores because of any possible difference in the degree of difficulty of the two tests; however, an individual who has done well in three years of college-preparatory mathematics and is enrolled in a fourth year is prepared for the advanced test and should not hesitate to take it.

In addition to the regularly scheduled tests of the College Board at more than 800 centers throughout the United States and foreign countries, the March College Board tests are given at designated military stations (appendix IV) along with the medical and physical aptitude examinations required by the Military Academy. Information on dates of administration, location of test centers, dates by which the applicant must register, and methods of application are contained in the College Board **Bulletin of Information.** This booklet may be obtained from the principal, guidance counselor, or librarian in most high schools or may be obtained by writing to: The College Entrance Examination Board, P.O. Box 592, Princeton, N.J., or P.O. Box 27896, Los Angeles 27, Calif.

The nature and scope of each College Board test, together with sample questions, are described in other booklets published by the College Entrance Examination Board. The College Board will send free to all candidates, booklets describing the tests for which they register.

The U.S. Government will pay the College Board test fees of all authorized candidates. An application form for registering is contained in the material supplied to nominated candidates by The Adjutant General. The candidate must request on his application form that his scores be sent to the Military Academy.

A **Congressional Candidate** nominated as a principal or alternate prior to the closing date for registration for the March College Board tests may take the tests prescribed for him at any of the regularly scheduled administrations of the College Board prior to the March tests, or at the March tests conducted especially for the Military Academy at military stations listed in appendix IV. A **Congressional Candidate** nominated subsequent to the March College Board tests may take the tests prescribed for him at the special administration at West Point in June.

Congressional candidates nominated as a principal or alternate who have previously taken any of the required College Board tests should request the appropriate CEEB office (Princeton or Los Angeles) to send the scores to the Military Academy for consideration. After receipt of the prior scores and the candidate's educational record, the Registrar, USMA, will advise the candidate on the status of his academic qualification.

Congressional competitors must submit College Board scores from the December, January, or March test administration.

Candidates, except ex-cadets, once found academically qualified for admission will be considered qualified for any subsequent nomination as a **principal or alternate** and will not be required to take further academic examinations.

Candidates who have previously failed academically must retake the College Board Scholastic Aptitude and achievement tests to qualify under the new nomination.

Congressional candidates nominated as a principal or alternate with acceptable college credit are required to submit scores on the Scholastic Aptitude Test only. In determining the acceptability of a college record, which must reflect at least one semester's credits earned at an accredited college or university, the Military Academy considers the entire scholastic record of a candidate. Low marks, failures, or conditions in college, or failure on a prior Military Academy entrance examination are considered good reasons for rejection of a college certificate. A candidate whose college certificate is not accepted must take the achievement tests in English Composition and Mathematics as well as the Scholastic Aptitude Test.

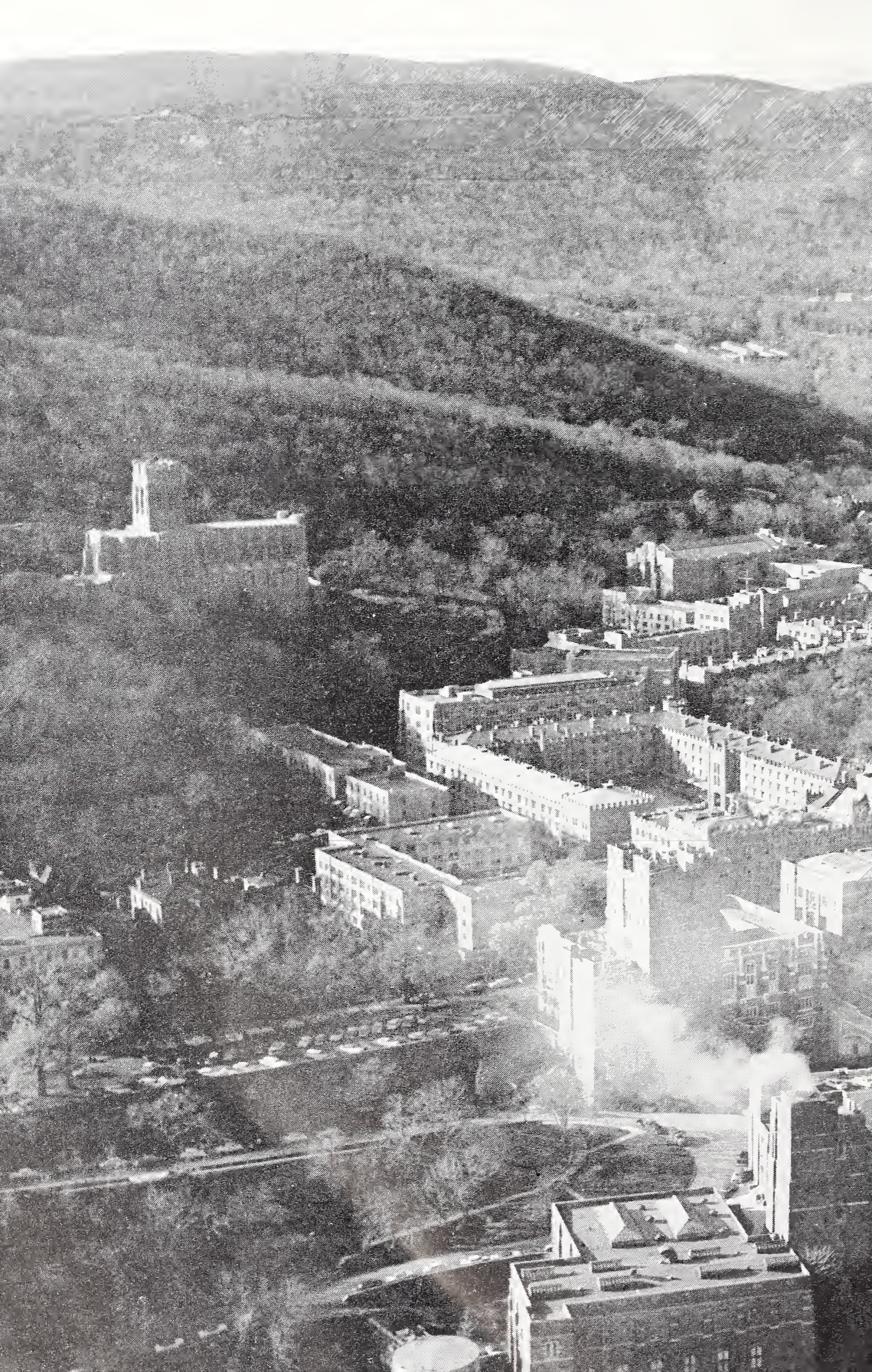
Competitive candidates seeking to qualify under a competitive nomination—Army and Air Force (Regular and Reserve Components), Presidential, Sons of Deceased Veterans, or Honor Military or Naval Schools—must take the Scholastic Aptitude Test and the required achievement tests in English Composition and Mathematics at the December or January administrations. Failure of a competitive candidate to report for the December or January examinations automatically vacates his nomination.

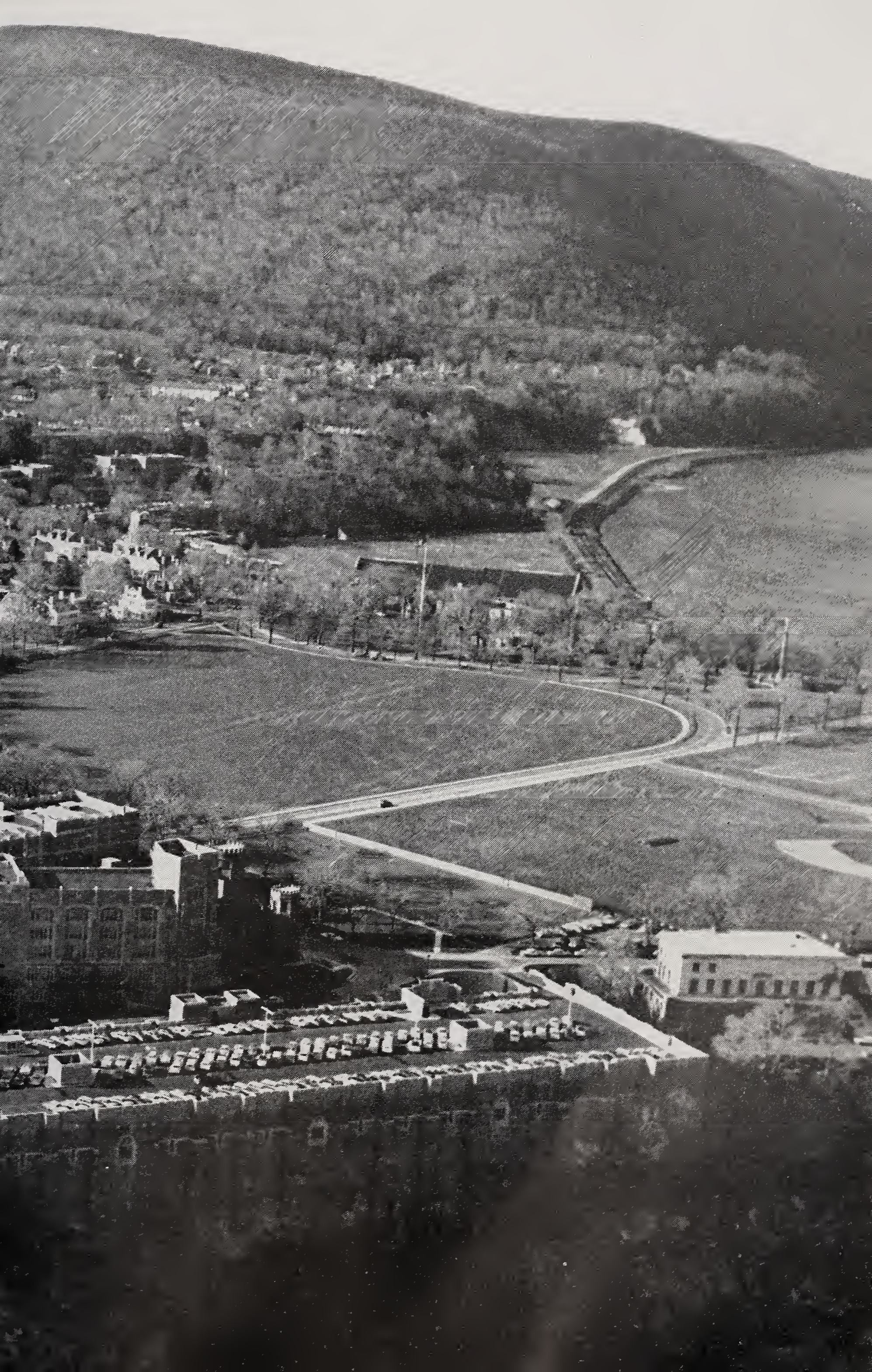
A candidate holding more than one nomination, one or more of which is **competitive** (including Congressional Competitive), must either: (1) follow the procedure for his competitive nomination, the results of which will determine his eligibility under both types of nomination, or (2) relinquish his competitive nomination and meet the requirements for his principal or alternate nomination.

MEDICAL EXAMINATION

Every candidate, regardless of the type of nomination he receives, is required to undergo a thorough medical qualification examination prior to entrance to the Military Academy. Requirements for this examination are contained in appendix I.

Upon receipt of a nomination, a candidate will be authorized to take the medical qualification examination at one of the stations





listed in appendix II. A medical examination is also given in March at the stations listed in appendix IV in conjunction with the academic and physical aptitude examinations. Candidates receiving nominations subsequent to the March examinations may take a medical qualification examination at West Point in June.

Results of the medical qualification examination are valid only if taken within the 12 months prior to the date of admission. Candidates are encouraged to take this examination as soon as possible after receiving a nomination, but no later than 12 January 1962, in order to establish medical qualification for admission. Those unable to take the medical examination by this date will take the examination in March at designated military stations in conjunction with the Physical Aptitude Examination. The candidate will contact the hospital, in writing, requesting an appointment. At the time of the examination, the candidate should report all previous injuries and operations to assist the examining officer and to alleviate uncertainty in findings reported. The Army will accept or reject a candidate only on the basis of a qualification or final-type medical examination. Candidates who are assured of medical acceptability on the basis of any other type medical examination are cautioned that the results are purely advisory and not final or binding in any way upon the Department of the Army.

Instructions as to the arrangements which must be made with the examining station are supplied by The Adjutant General at the time the candidate is notified of his nomination. Travel and personal expenses incurred in taking the medical examination are the responsibility of the candidate.

A prospective candidate is urged to see his private doctor and dentist for a medical check as outlined in appendix I.

PHYSICAL APTITUDE EXAMINATION

Each candidate is required to take a physical aptitude examination designed to measure strength, coordination, muscular power, endurance, speed, and agility. Examples of the examination items, with standards to be considered by the candidate as minimum performance for each test, are listed in appendix III. The examination is graded on the basis of the total score. In other words, if a passing grade is achieved on the whole examination, failure to achieve a passing score on any single test will not necessarily result in disqualification.

The physical aptitude examination is given in March at the military stations listed in appendix IV at the same time as the administration of the College Board tests and the medical examination. Candidates receiving nominations subsequent to the March examinations will take the physical aptitude examination at the special June examinations at West Point.

Candidates should prepare for this examination by engaging in vigorous activities, such as running, conditioning exercises, and competitive games, rather than by practicing on specific test items.

A candidate who has once qualified in physical aptitude will not be required to take another physical aptitude examination for a subsequent **principal or alternate nomination.**

MARCH EXAMINATIONS

The Adjutant General will authorize the candidate to report for examination at the military station nearest his home (app. IV) on Wednesday, 28 February 1962, where he may take all of the examinations required for admission. The physical aptitude and medical examinations are given first and should be completed by Friday afternoon. On Saturday, 3 March, the College Board tests will be given at these military stations. During this examination period (Wednesday p.m.—Saturday p.m.) living accommodations and meals will be provided at nominal cost. Travel and personal expenses are the responsibility of the candidate.

Failure to complete all examinations—academic, medical, and physical aptitude—by the end of the March examinations nullifies a **Congressional Competitive** or a **principal or alternate nomination,** unless in the case of a **principal or alternate nomination,** failure to report is due to sickness or some other unavoidable cause, in which case the **principal or alternate candidate** may request authority to take the special June examinations at West Point.

JUNE EXAMINATIONS

A special administration of the College Board tests and of the medical and physical aptitude examinations is given at West Point on Tuesday, 12 June 1962. These examinations are limited to candidates nominated after the March examinations and **principal and alternate nominees** unable to take the March examinations because of sickness or other unavoidable causes.

APPOINTMENT

From seven to eight weeks after a candidate has completed the required examinations—academic, medical, and physical aptitude—he will be advised by The Adjutant General whether he is qualified and whether he has been selected to fill the vacancy for which he has been nominated. Those entitled to admission will be directed to report to West Point on the first Tuesday in July, except when July 4th falls on Tuesday, in which event they will report on the first Wednesday in July. Appointees will be furnished a letter of instructions giving details of reporting, such as time, place, and articles to bring.

PREPARATORY PHYSICAL CONDITIONING

Because of the nature of the new cadets' training during their first two months at West Point, physical demands upon them are necessarily great. Experience indicates that those cadets who, prior to admission, have conditioned themselves physically are best able to meet the training requirements. The candidate should strive for the degree of conditioning required for vigorous team sports. He is advised to practice heavy physical conditioning exercises until many repetitions of the exercises can be performed without severe physical strain. In addition, he should strengthen his legs and wind by regular cross country running and by fast climbing on steep slopes. A program of vigorous competitive sports should be followed, with emphasis on variety of sports rather than on one favorite activity. Any candidate in doubt as to physical-conditioning methods will be wise to consult a high-school or college physical-education department.

DEPOSIT UPON ENTRANCE

Because the purchase of his uniforms, textbooks, etc., requires a heavy expenditure of funds during his first year, the appointee should make a deposit of $300 prior to, or upon, entrance to the Academy. When such deposit is in the form of a check, it should be drawn to the order of the Treasurer, U.S. Military Academy, and mailed to him at West Point. The deposit is credited to the cadet's account.

TRAVEL EXPENSES

New cadets who were members of the Armed Services on active duty are entitled to permanent change of station allowances as provided under the Joint Travel Regulations.

New cadets who were not previously members of the Armed Services on active duty are entitled to the permanent change of station allowances for travel actually performed, not to exceed the official distance between the place which the cadet certifies was his actual permanent place of abode, home or school, at the time such travel to the Academy commenced. The allowance for travel at personal expense is six cents per mile. Payment of the travel allowance is usually made in the month of September and is credited to the cadet's account. Should the deposit upon entrance plus the travel allowance exceed $300, the cadet may submit a request to have the excess over $300 returned to his parents. No action is taken on any request for the return of excess deposit until the travel allowance has been paid. The request for return of excess allowance to parents must be initiated by the cadet.

OATH OF ALLEGIANCE

Each appointee (except a foreign candidate) takes the oath of allegiance to the United States in a formal ceremony on the day of admission.

ENGAGEMENT FOR SERVICE

Upon admission each cadet (except a foreign cadet), with the consent of his parents or guardian, if he is a minor, must sign articles by which he shall engage, unless sooner separated by competent authority—

To complete the course of instruction; and

If tendered an appointment as a commissioned officer in a Regular component of one of the armed services upon graduation from the United States Military Academy, to accept such appointment and to serve under such appointment for not less than four consecutive years immediately following the date of graduation; and

In the event of the acceptance of his resignation from a commissioned status in the Regular component of such armed service prior to the sixth anniversary of his graduation, or in the event of an appointment in such Regular service not being tendered, to accept a commission which may be tendered him in the Reserve component and not resign therefrom prior to such sixth anniversary; and

In the event of his separation from the Corps of Cadets prior to graduation, to complete his active duty obligation, or to accept, if qualified, transfer to the Army Reserve in an appropriate enlisted grade, and to complete the six-year service obligation, including six months' active duty training if required.

ACADEMICS

EDUCATION AND TRAINING

An officer in the United States Army must be a man of high character, a trained leader, a clear thinker, and a versatile scholar. He must be a man of sound physical fitness. He must possess a breadth of knowledge both academic and military which enables him to perform effectively in a wide range of specialized fields. He must be able to communicate intelligently and sympathetically with men in a variety of other professions and occupations. He must possess a depth of knowledge which will qualify him to pursue graduate studies in any area which the needs of the military service may dictate. The curriculum of the Military Academy is designed to produce such an officer. The entrance requirements of the Academy are such as to permit the entrance of the caliber of student who can successfully accomplish the rigors of such a curriculum.

To each young man who can meet the entrance requirements, the Academy offers a four-year undergraduate education which in quantity and quality ranks with the very best.

ACCREDITED BACHELOR OF SCIENCE PROGRAM

The Military Academy is fully accredited by the Middle States Association of Colleges and Secondary Schools. Its program, culminating in the Bachelor of Science degree, provides the student with a broad foundation in the humanities, the social sciences, the natural and engineering sciences, and the military sciences. Graduates of the Academy are accepted for advanced studies by the leading graduate schools of the country.

STANDARD ACADEMIC PROGRAM

The Standard Academic Program consists of the normal prescribed courses which fulfill at least the minimum requirements for graduation. Each cadet must satisfactorily complete each of these courses unless, on the basis of previously-completed work or the passing of a validating examination, he is excused from a specific course. In such a case, he is required to take an advanced or an elective course to complete his program.

ADVANCED STUDIES PROGRAM

Cadets who have the academic background or demonstrate the ability for more rapid and comprehensive work are permitted to pursue their studies more rapidly than their classmates. In the time saved in this process, these cadets are enabled to delve more deeply into the subject being studied or to take advanced or elective courses. They thus participate in the Advanced Studies Program.

Advanced courses are those courses taken in addition to or in lieu of Standard courses.

ELECTIVE COURSES

Elective courses are those which a cadet pursues upon his own choice at designated stages in the curriculum. At present, each cadet selects a minimum of two electives during his last year at the Military Academy. Cadets are encouraged to make their selections in the interest of deepening their area of concentration or in the interest of broadening their program, whichever appears to contribute most effectively to their professional development. Elective courses are as follows:

Aircraft Propulsion
Automotive Engineering
Calculus
Comparative Economic Systems
Concrete Structures
Contemporary Literature
Digital Computers
Electronics
French
German
Governmental Problems of the Non-Western World
History of the Great Powers Since 1870
History of the Military Art
Human Relations
Individual Engineering Project
Individual Ordnance Project
Modern Abstract Algebra
National Security Problems
Nuclear Engineering
Physical Chemistry
Portuguese
Russian
Science of Materials
Shakespeare
Soil Mechanics
Space Mechanics
Spanish
Structural Analysis
The Novel
Theoretical Physics

HONORS COURSES

For a selected few cadets Honors Courses are offered in the First Class year.

LISTING OF COURSES

Standard, advanced, and elective courses are shown by departments. Courses for the Fourth Class are numbered in the 100's; courses for the Third Class in the 200's; courses for the Second Class in the 300's; and courses for the First Class in the 400's. Where the final digit is an odd number, the course is normally offered in the fall; where the final digit is an even number, the course is normally offered in the spring. Advanced courses carry a second digit of five or more. Elective courses carry a second digit of eight or more. Semester hours are computed generally on the basis of actual number of hours of classroom instruction per week.

The suffix "s" following a course number denotes a one-semester course conducted in the spring term which corresponds to the same course conducted in the fall term. Thus, French 485s is the same course conducted in the spring as French 485 which is conducted in the fall.

METHODS OF INSTRUCTION

Cadets are taught in small class sections of from 12 to 15 cadets so that emphasis may be placed on daily student participation and so that instruction can be individual and the development of responsibility thorough. Cadets are assigned to sections on the basis of their shown ability in each subject. The resulting homogeneous grouping enables each instructor to pace his teaching to the capability of the student. Thus the most apt cadet can always be intellectually challenged, and the maximum of learning can take place at all levels. Cadets are resectioned periodically. Grading is done almost daily. The weekly posting of grades and the monthly report to parents contribute much to the development of a competitive spirit among cadets and a genuine dissatisfaction with all forms of mediocrity.

USMA STANDARD AND ADVANCED STUDY PROGRAMS

	Courses in the Standard Academic Program	*Courses in the Advanced Studies Program*
4th Class (Freshman)	Engineering Fundamentals	Advanced Engineering Fundamentals
	Mathematics	Advanced Mathematics
	English	Evolution of American Ideals
	Foreign Languages	Advanced Foreign Languages
	Environment	
3d Class (Sophomore)	Mathematics	Advanced Calculus Differential Equations Statistics
	Chemistry	Organic Chemistry Advanced Inorganic Chemistry
	Foreign Languages	Advanced Foreign Languages
	Physics	
	Psychology	
	English	
	History of Modern Europe	History of Middle East
	Modern History of Far East	History of Russia
2d Class (Junior)	Electricity	Advanced Electricity
	Mechanics of Fluids	Augmented Thermodynamics
	Mechanics of Solids	Augmented Mechanics
	Contemporary Foreign Governments	Augmented Contemporary Foreign Governments
	History of Modern Europe and America	Political Philosophy
	US Government	US Diplomatic History
	Law	
1st Class (Senior)	English	
	History of Military Art	
	Leadership	
	Economics and International Relations	
	Civil Engineering	Honors Course
	Ordnance Engineering	
	Electives	

ACADEMIC PROGRAM 1961-1962

FOURTH CLASS (FRESHMAN) YEAR

Subject	*Frequency of Attendance*	*Number of Attendances*	*Length of Period in Minutes*	*Contact Hours*	*Semester Credit Hours*
Mathematics	Every day Mon-Sat	212	75	265	16
Engineering Fundamentals.	Every other day Mon–Fri	90	120	180	6
Environment	Every other day Mon–Fri	90	60	90	6
English	Every other day Mon–Fri	90	55	82	5
Foreign Languages	Every other day Mon–Fri	90	60	90	5
Physical Education	Every other day Mon-Sat	106	45	80	2
Tactics	Twice each week	65	60	65	2
Physical Education	Twice each week	39	90	60	1
THIRD CLASS (SOPHOMORE) YEAR					
Mathematics	Every other day Mon–Sat	106	80	141	8
Physics	Every other day Mon–Sat	106	80	141	8
Chemistry	Every other day Mon–Sat	106	80	141	8
Foreign Languages	Every other day Mon–Sat	106	80	141	8
History	Every other day Mon–Fri	90	60	90	5
English	Every other day Mon–Fri	45(2)	60	45	2.5
Psychology and	Every other day Mon–Fri	45(1)	60	45	2.5
Military Instructor Training.	As Scheduled	--	--	--	1
Physical Education	Twice each week	39	90	60	1
Tactics	Twice each week	45	60	45	2.0
Physical Education	As Scheduled	29	60	29	.5
SECOND CLASS (JUNIOR) YEAR					
Mechanics of Fluids	Every other day Mon–Sat	106	80	141	8
Mechanics of Solids	Every other day Mon–Sat	106	80	141	8
Electricity	Every day Mon–Sat	212	80	283	16
History and Government.	Every other day Mon–Fri	90	60	90	5
Law	Every other day Mon–Fri	90	60	90	5
Tactics	Twice each week	66	60	66	2
Physical Education	As Scheduled	8	60	8	.5
Physical Education	Twice each week	39	90	60	1

(1) First term. (2) Second term.

FIRST CLASS (SENIOR) YEAR

Subject	*Frequency of Attendance*	*Number of Attendances*	*Length of Period in Minutes*	*Contact Hours*	*Semester Credit Hours*
Civil Engineering	Every other day Mon–Sat	106	80	141	8
History of Military Art	Every other day Mon–Sat	106	80	141	8
Economics and International Relations.	Every other day Mon–Sat	106	80	141	8
Ordnance Engineering	Every other day Mon–Sat	106	80	141	8
Elective	Every other day Mon–Fri	90	60	90	5
English	Every other day Mon–Fri	45(1)	60	45	2.5
Leadership	Every other day Mon–Fri	45(2)	60	45	2.5
Tactics	Twice each week	66	60	66	2
Physical Education	As Scheduled	8	60	8	.5
Physical Education	Twice each week	39	90	60	.5

(1) First term. (2) Second term.

TYPICAL DAILY SCHEDULE

MORNING

6:05	First call for reveille
6:45– 7:15	Breakfast hour
7:15– 7:55	Study time
7:55– 9:15	Class
9:15–10:35	Study time
10:35–11:55	Class
12:10– 1:00	Dinner hour

AFTERNOON

1:05– 2:05	Class
2:05– 2:15	Unscheduled time
2:15– 3:15	Class
3:15– 3:35	Unscheduled time
3:35– 4:50	Intramural and intercollegiate athletics
4:50– 6:20	Study time, parades, intercollegiate athletics, and extracurricular activity meetings
6:20– 7:15	Supper hour
7:15– 9:30	Study time and extracurricular meetings
10:00	Taps
11:00	Lights out

The schedule shown above is the normal daily schedule for a cadet during the academic year, September through May. During the summer months of June through August the cadet takes a leave of approximately one month and devotes the remainder of the time to instruction in Military Science and Tactics.

DEPARTMENTS OF INSTRUCTION

DEPARTMENT OF EARTH, SPACE AND GRAPHIC SCIENCES

Professors	COL. L. E. SCHICK (Head of Department). COL. C. R. BROSHOUS, W. W. WATKIN, JR.
Associate Professors	MAJS. N. J. SALISBURY, W. C. SMITH.
Assistant Professors	MAJS. R. H. HAMMOND, P. B. McDANIEL, W. B. ROGERS; CAPTS. E. H. BIRDSEYE, J. F. BOYLAN, J. R. BRINKERHOFF, K. E. DAWSON, W. E. GRUGIN, R. G. KIMMEL, R. W. LEACH, R. S. McGOWAN, E. PELOQUIN, W. F. ULMER.
Instructors	MAJS. R. E. CLARK, M. J. SLOMINSKI; CAPTS. A. C. BIGGERSTAFF, H. L. DAVISSON, A. L. ERICKSON, C. J. FRALEN, I. G. KINNIE, A. F. LYKKE, J. G. McCORMACK, F. B. PHILLIPS, J. A. POTEAT, R. M. RENFRO, L. E. RISING, J. L. SCHICK, J. L. SCOVEL, J. D. SMYTHE, W. B. STREETT.

STANDARD COURSES

ENGINEERING FUNDAMENTALS 101–102.

This course is divided into two subcourses with contents as follows:

EARTH AND SPACE MEASUREMENTS. Fundamental operations and equipment for measuring angles, horizontal and vertical distances. Analysis of sources of error inherent in all measurements and consideration of the methods available for adjustment of these errors. Horizontal and vertical control. Theoretical application of measurements and control to military mapping, artillery fire, missile launching, and space flight.

ENGINEERING DRAWING, DESCRIPTIVE GEOMETRY AND GRAPHICAL MATHEMATICS. Modern graphical techniques to include applied geometry; pictorial techniques (with emphasis on sketching); orthographic projection; engineering conventions to include shape and size description; basic mechanical elements;

working drawings; spatial relations of points, lines and planes; vector geometry; graphs and diagrams; nomography.

6 Credit Hours.

ENVIRONMENT 101–102.

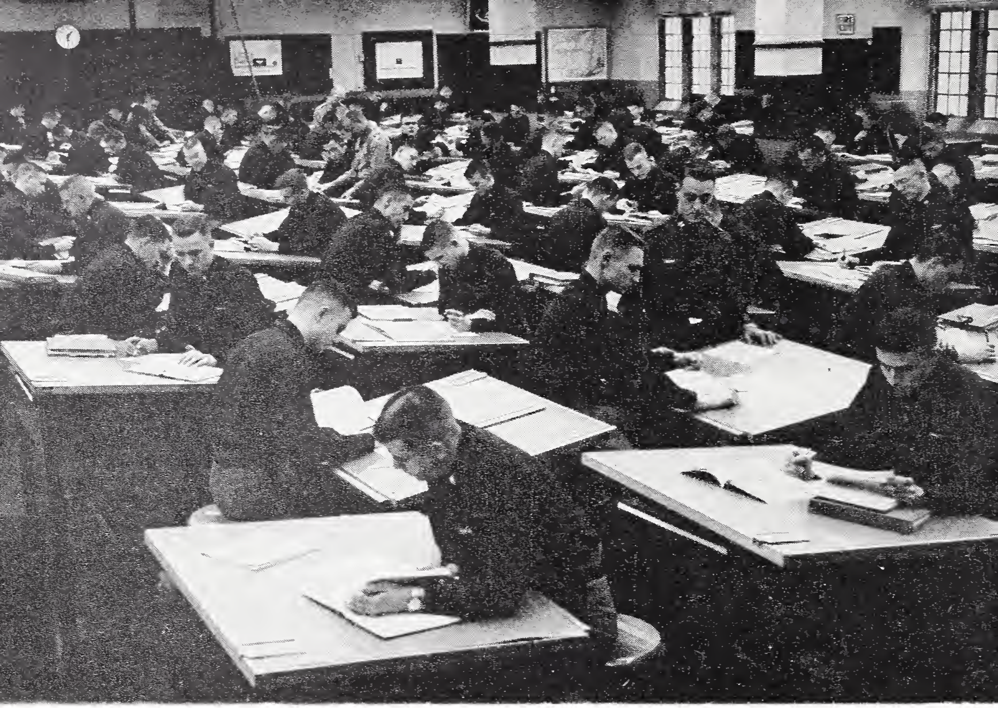
This course is divided into three subcourses with contents as follows:

PHYSICAL GEOGRAPHY. The descriptive study of a number of earth's sciences which gives a general insight into the nature of man's environment and provides a sound physical basis for later work in world geography. Included are introductions to geomorphology, geology, hydrology, meteorology, climatology, pedology, and physical oceanography. Map studies are emphasized throughout.

DESCRIPTIVE ASTRONOMY AND SPACE ORIENTATION. Methods of orientation and position referencing; earth motions and environment; origin, characteristics and dynamics of the solar system; historical concepts of astronomy, general methods of astronomical investigation, stellar organization and motions, organization of the universe, history of space flight, current astronautics programs and their implications with predictions for the future.

WORLD GEOGRAPHY. A study of the location and density of man and the effects of the differences of population density, habitat, way of living, and political organization on the conditions of poverty, hunger, insecurity, and conflict. In addition to the general coverage, three regions of the world are studied in greater detail in order to determine their relative national power.

6 Credit Hours.



Drawing Is Part of Engineering Fundamentals

ADVANCED COURSE

ENGINEERING FUNDAMENTALS 152. ADVANCED DESCRIPTIVE GEOMETRY AND GRAPHICAL MATHEMATICS.

Prerequisite: A grade of C or better for a college engineering drawing course of 3 or more credit hours. Offered in lieu of second subcourse of Engineering Fundamentals 101–102.

Basic Mechanical elements; advanced descriptive geometry; map projections, vector geometry; graphical arithmetic and algebra; empirical equations; nomography; graphical calculus.

4 Credit Hours.

DEPARTMENT OF ELECTRICITY

Professors	COL. E. C. CUTLER, JR. (Head of Department), LT. COL. E. A. SAUNDERS
Associate Professors	MAJORS W. T. LINCOLN, W. F. LUEBBERT
Assistant Professors	MAJ. P. R. FEIR; CAPTS. E. L. ARNOLD, W. T. LEGGETT, JR., J. D. MITCHELL, JR., M. W. NOAH, P. L. THORSEN.
Instructors	CAPTS. W. A. BURKHARDT, R. D. CARPENTER, R. M. CLINE, JR., G. A. CORDELL, F. J. DAVIS, R. P. ELLMAN, W. Y. EPLING, R. F. FISCHER, F. M. GALLOWAY, R. A. KOCH, JR., S. A. LASHER, G. LEWIS, L. R. MENTILLO, J. T. MILLER, E. E. RODERICK, F. A. WOLAK.

STANDARD COURSES

ELECTRICITY 301. DIRECT AND ALTERNATING CURRENT CIRCUITS

Basic laws of DC circuits; Superposition and Thevenin network theorems; instruments; Electrostatics and capacitance, inductance; passive linear circuit parameters; transients in simple RLC circuits; fundamental AC relations, reactance, impedance, power factor; complex notation; resonance phenomena; polyphase AC power distribution systems with emphasis on balanced loads; measurements with DC and AC bridges; Magnetic Circuits; Transformers.

LABORATORY. Experimental verification of the fundamental laws of electric circuits. Practical training in the use of basic electrical measuring instruments. Measurement of transformer.

5 Credit Hours.

ELECTRICITY 302. DIRECT AND ALTERNATING CURRENT MACHINERY

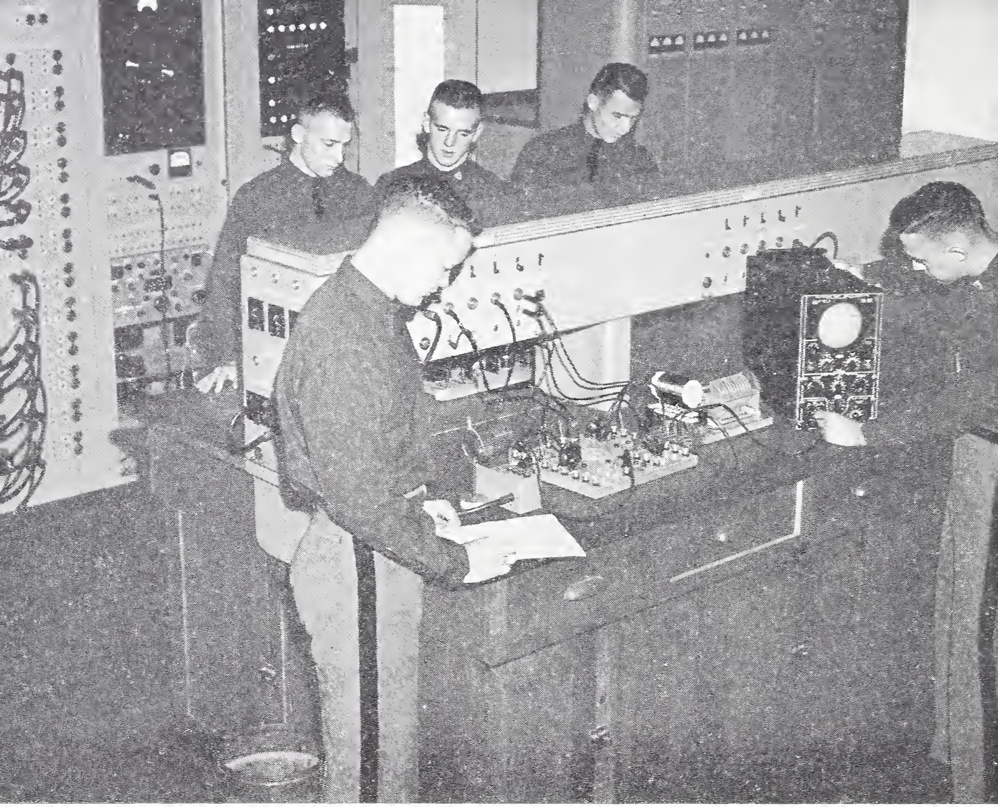
Fundamentals of dynamos; DC generators and motors; alternators; synchronous motors; induction motors; introduction to feedback control systems and components.

LABORATORY. Practical exercises on the connections, starting and operation of DC and AC motors and generators and experimental determination of their load characteristics.

2 Credit Hours.

ELECTRICITY 303–304. ELECTRONICS AND COMMUNICATIONS

Vacuum tubes, semiconductor diodes and transistors, equivalent circuits and load lines; basic vacuum tube circuits (rectifier, amplifier, and oscillator); wave-shaping circuits; simple telephone systems, attenuators and filters, impedance matching; AM transmit-



Working in the Electronics Laboratory

ters and receivers, modulation and detection, principles of radio communication; propagation of electro-magnetic waves, antennas; frequency modulation; radar systems; basic concepts of TV transmission.

LABORATORY. Measurement of vacuum tube and semiconductor device characteristics. Construction and demonstration of the operating characteristics of amplifiers, oscillators, tuned circuits, mixers, AM transmitters, AM receivers, transistor circuits, and wave-shaping circuits.

5 Credit Hours (1 first term, 4 second term).

ELECTRICITY 305–306. ATOMIC AND NUCLEAR PHYSICS

Historical development of modern concepts; quantum structure of light and electricity; photo-electric effect and photocells; Bohr Theory of the atom, quantum numbers, Pauli's exclusion principle; solid-state electronics; X-rays; nuclear structure, natural and artificial radioactivity; nuclear fission and fusion reactions; chain reactions in reactors and weapons; radiation hazards and detection.

LABORATORY. Observation and application of the photoelectric effect. Familiarization with radiation detection and counting devices. Measurement of radioactive decay and absorption.

4 Credit Hours.

ADVANCED COURSE

ELECTRICITY 353–354. ELECTRONICS AND COMMUNICATIONS

Prerequisite: Accelerated completion of ELECTRICITY 301.

This course is an augmented course replacing ELECTRICITY 303–304 for cadets who have completed ELECTRICITY 301 at an accelerated pace. It covers the same material as ELECTRICITY 303–304 but presents a more detailed and mathematical approach to the electronics portion of the course, using a more advanced textbook than the regular course.

LABORATORY. Mission type experiments involving the construction and investigation of the properties of various vacuum tube and semiconductor circuits including amplifiers, oscillators, and wave-shaping circuits.

6 Credit Hours (2 first term, 4 second term).

ELECTIVE COURSES

ELECTRICITY 481. ADVANCED ELECTRONICS

Mesh and Nodal Analysis; Four-terminal Networks; Active Networks; Transistor Networks; Laplace transform; amplifiers; transient response of amplifiers; band pass and negative feedback amplifiers; oscillators; modulation; detection; wave shaping and multivibrators; noise and information theory.

LABORATORY. Mission type laboratory exercises involving the construction of vacuum tube and transistor circuits and investigation of their characteristics with emphasis placed upon transient response and feedback applications.

2.5 Credit Hours.

ELECTRICITY 482. NUCLEAR ENGINEERING

Review of nuclear physics pertaining to reactor theory; nuclear forces and binding energy; nuclear reactions; fission; chain reaction; neutron moderation; multiplication, and diffusion; critical equation; time dependency and temperature effects; health physics and radiation detection.

LABORATORY. Practical exercises in the measurement and counting of radioactive radiations and operation of a neutron howitzer and subcritical fission reactor.

2.5 Credit Hours.

ELECTRICITY 483. DIGITAL COMPUTERS

Capabilities and limitations of computers and related data processing equipment; organization and operation; problem solution; electrical construction; system design, planning, and applications.

LABORATORY. Investigation of the various electronic circuits utilized in a digital computer and practical exercises on an actual digital computer involving computer operating techniques, various programing methods, and actual problem solution.

2.5 Credit Hours.

DEPARTMENT OF ENGLISH

Professors	COL. R. K. ALSPACH (Head of Department). COL. E. V. SUTHERLAND.
Associate Professors	LT. COL. W. C. BURTON; MAJ. J. L. CAPPS.
Assistant Professors	LT. COLS. A. A. SANELLI, L. D. WALLIS (Executive Officer); MAJS. J. E. HURST, JR., D. H. REYNOLDS; CAPTS. L. P. HOLCOMB, JR., J. R. KINTZ, B. E. PETREE.
Instructors	MAJS. L. T. DOYLE, J. L. FANT, III, C. B. LIND, G. W. TRACY, G. C. WILHIDE, JR., CAPTS. B. BUCKLEY, JR., A. E. S. BURKHARD, R. T. FALLON, P. R. HILTY, JR., W. A. HOLT, L. J. MATTHEWS, M. L. O'CONNOR, J. W. RASMUSSEN, JR., W. C. ROYALS, W. A. SAMOUCE, A. L. SHEMWELL, JR., S. M. SMITH, JR., A. C. STERLING, G. W. STOUT, M. T. WOOD, J. H. YOUNG, JR.

STANDARD COURSES

ENGLISH 101–102. COMPOSITION, READINGS, AND SPEECH MAKING

Grammar, punctuation, and diction; the summary and paraphrase; the paragraph; analysis, logic, exposition, and research; diversified reading selections, including narrative poetry, the drama, the short story, and the essay; the preparation and presentation of various types of speeches.

5 Credit Hours (2.5 each term).

ENGLISH 202. COMPARATIVE LITERATURE

Selections from the masterpieces of world literature. Among the writers studied are Homer, Plato, Dante, Shakespeare, Milton, Goethe, Yeats, Frost, and Eliot. The course emphasizes that literature treats generally of (1) man's relationship with God; (2) man's relationship with his fellow man; and (3) man's relationship with nature. The cadet develops his skill in speaking through classroom analysis of the assigned reading; he develops his skill in writing through the preparation of formal papers which include a criticism of a novel and a research paper.

2.5 Credit Hours.

ENGLISH 401. LITERATURE AND ADVANCED EXPOSITION

Readings in the expository essay and the novel. Advanced expository theme writing. The objectives are (1) to develop further the student's ability to write and speak effectively, and (2) to improve his skill in logical analysis and criticism.

2.5 Credit Hours.

ADVANCED COURSES

ENGLISH 151. THE EVOLUTION OF AMERICAN IDEALS, 1607–1860

Open to students qualified by the Department of English.

A study of the part played by American literature in the development of our national character. Among the writers studied are Bradford, Edwards, Franklin, Jefferson, Emerson, Thoreau, Hawthorne, and Poe.

2.5 Credit Hours.

ENGLISH 152. DEVELOPMENT OF AMERICAN IDEALS, 1860–1961

Open to students qualified by the Department of English.

A continuation of English 151. Among the writers studied are Whitman, Lincoln, Howells, James, Clemens, Crane, Sandburg, Frost, Benét, Hemingway, Steinbeck, and Faulkner.

2.5 Credit Hours.

ENGLISH 252. NINETEENTH CENTURY BRITISH LITERATURE

Open to students qualified by the Department of English.

Romantic, Victorian, and early modern British literature. Wordsworth, Coleridge, Keats, Tennyson, Browning, Hopkins, Wilde, and Conrad are among the authors considered.

2.5 Credit Hours.

ELECTIVE COURSES

ENGLISH 481. THE NOVEL

Prerequisites: Credit for English 101–102 or 151–152 and 202 or 252.

Selected novels of Cervantes, Clemens, Cozzens, Dreiser, Faulkner, Hardy, James, Thackeray, and Tolstoy.

2.5 Credit Hours.

ENGLISH 482. CONTEMPORARY LITERATURE

Prerequisites: Credit for English 101–102 or 151–152 and 202 or 252.

A study of the work of the major American and British writers between 1900 and the present. Among the writers studied are John Masefield, W. B. Yeats, Robert Frost, T. S. Eliot, W. H. Auden, and James Joyce.

2.5 Credit Hours.

ENGLISH 484. SHAKESPEARE.

Prerequisites: Credit for English 101–102 or 151–152 and 202 or 252.

A study of selected plays and poems.

2.5 Credit Hours.

DEPARTMENT OF FOREIGN LANGUAGES

Professors	COL. C. J. BARRETT (Head of Department). COL. W. J. RENFROE, JR.
Associate Professors	LT. COLS. E. H. GERMANN, S. WILLARD.
Executive Officer	LT. COL. D. B. WENTZEL.
Assistant Professors	LT. COL. W. B. HALE; MAJS. C. L. BOOK, R. L. BURNELL, JR., A. M. LEAVITT, O. E. MOFFETT, S. L. STAPLETON, R. C. TUCK; CAPTS. J. D. BETHEA, E. A. DINGES, D. G. HANSARD; DR. F. TILLER; MR. N. MALTZOFF.
U.S. Army Instructors	MAJS. D. M. DUNNE, J. J. PORTERA, R. M. WILDRICK; CAPTS. D. G. ALBRIGHT, M. J. ASENSIO, JR., L. B. BONNER, L. J. CORBRIDGE, JR., N. CREIGHTON, H. W. HALTERMAN, JR., M. E. HAYES, T. F. HEALY, JR., F. A. HENNING, W. B. HOLDEN, R. X. LARKIN, A. T. LINDHOLM, H. I. LOWDER, R. MALADOWITZ, W. A. MALOUCHE, E. J. P. PAWLOWSKI, W. L. WUBBENA, JR.
Civilian Instructors	MESSRS. F. GARCIA, J. MARTINEZ, C. VIOLLET.
Foreign Instructor	MAJ. M. P. CARBALLO (Mexican Army)

NOTE: Each cadet studies one foreign language—French, German, Portuguese, Russian or Spanish—during the first two years of his course at West Point. The Department of the Army specifies the approximate percentage of the entering class to be assigned to each language. Within these quotas cadets are assigned in accordance with their preferences and previous language experience. In general, a cadet may continue at West Point the study of a language begun elsewhere, unless he has reached a stage of proficiency equal to the average to be attained at West Point. Special advanced courses in French, German, and Spanish are given for those cadets who wish to continue the study of those languages and who show themselves qualified therefor in oral and written examinations given prior to the start of academic work. The advanced courses are given in lieu of and during the same time as the other language courses. A cadet may also take one or two additional semesters of language study among the elective courses of the fourth year.

STANDARD COURSES

FRENCH	**101–102**
GERMAN	**101–102**
PORTUGUESE	**101–102**
RUSSIAN	**101–102**
SPANISH	**101–102**

Basic course in the fundamentals of the language. In keeping with the primary objectives of speaking and of understanding the spoken language, particular emphasis is placed on oral work. The audio-lingual skills are developed by reading aloud, repetition drills, question and answer exercises, prepared and extemporaneous dialogues, individual short talks, and by use of the language laboratory. After the first month of the course all classroom work is in the foreign language.

5 Credit Hours (2.5 each term).

FRENCH	**201–202**
GERMAN	**201–202**
PORTUGUESE	**201–202**
RUSSIAN	**201–202**
SPANISH	**201–202**

Continuation of the 101–102 courses, with increased stress on the correct application of grammar principles. Continuing emphasis on oral discussions, dialogues, and individual talks. Periodic written compositions. Reading and discussion of one or two literary works and of historical, geographical, and military material of current interest. Series of six or seven lectures on the culture of the people whose language is being studied. Frequent aural comprehension exercises. All work conducted in the foreign language.

8 Credit Hours (4 each term).

Language Students Study Geography

ADVANCED COURSES

FRENCH 151–152
GERMAN 151–152
SPANISH 151–152

Prerequisite: The passing of oral and written validating examinations at the beginning of Fourth Class year.

Grammar review with audio-lingual emphasis. Extensive use of pattern drills, question and answer exercises, dialogues, and individual talks. Reading and discussion of modern fiction. Periodic written compositions. All classroom work is in a foreign language.

5 Credit Hours (2.5 each term).

FRENCH 251–252
GERMAN 251–252
SPANISH 251–252

Prerequisite: The 151–152 courses in the corresponding language.

Increased use of audio-lingual techniques, talks, debates, and interpreter exercises. Reading of a wider field of literature by French, German, Spanish or South American writers. Greater emphasis upon the cultural and history of the countries concerned.

8 Credit Hours (4 each term).

ELECTIVE COURSES

FRENCH	**481s**
GERMAN	**481s**
PORTUGUESE	**481s**
RUSSIAN	**481s**
SPANISH	**481s**

Prerequisite: The 201–202 courses in the corresponding language.

Readings in literary masterpieces by French, German, Brazilian, Russian, and Spanish-American writers. Class discussions, oral and written compositions, all in the appropriate foreign language.

2.5 Credit Hours.

ADVANCED SEMINARS

FRENCH	**485s**
GERMAN	**485s**
SPANISH	**485s**
PORTUGUESE	**486**
RUSSIAN	**486**

Prerequisite: The 251–252 courses, or the 481 course, in the corresponding language.

Advanced readings in the standard literature of France, Germany, and Spain, with class discussions, themes, etc. in the appropriate foreign language.

2.5 Credit Hours.

DEPARTMENT OF LAW

Professor	COL. C. W. WEST (Head of Department).
Associate Professor	COL. F. C. LOUGH.
Assistant Professors	MAJS. J. E. MACKLIN, JR., R. D. PECKHAM, J. R. ROBINSON, E. M. SCHMIDT.
Instructors	MAJS. G. D. HEISSER, B. N. HOLLANDER, V. H. H. NEWMAN, T. J. NICHOLS, R. K. WEAVER; 1ST LT. J. H. WILLIAMS.

STANDARD COURSES

LAW 301. ELEMENTARY, CONSTITUTIONAL, AND CRIMINAL LAW.

ELEMENTARY LAW. A broad, basic coverage of the fundamental legal principles of contracts, agency, business organizations, sales, real and personal property, negotiable instruments, torts, domestic relations, taxation, and remedies. The course provides a panorama of the law and its philosophies, affording an introduction to the several law subjects and their interrelations.

CONSTITUTIONAL LAW. Important phases of constitutional authority, guaranties and limitations. Emphasis is placed on the

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NOTE: Courses with the suffix "s" are offered in both the fall and spring terms.

sources and extent of military authority, and the relation of the military establishment to the legislative and judicial branches of the Federal government and the governments of the several States.

CRIMINAL LAW. Treats the substantive criminal law including the definition and classification of crimes, the criminal act and intent, capacity, exemptions from criminal liability, the parties to crime and the elements of particular common law and statutory offenses. Certain military crimes are included.

2.5 Credit Hours.

LAW 302. EVIDENCE AND MILITARY LAW.

EVIDENCE. Treats the origin and development of the rules of admissibility of evidence as is necessary to an understanding of those rules, and the application of particular rules in civil and criminal cases, including courts-martial.

MILITARY LAW. A study of the substance of certain military offenses (carried over from Criminal Law) and the mechanics of Military Law proper by familiarizing the cadet with the complete statutory framework of the military justice system. The course is concerned primarily with practice and procedure before courts-martial with emphasis upon the personal duties of the commander as well as those of the trial and defense counsel. Included is a brief treatment of military administrative procedures and the law of land warfare. Practical work in moot courts is featured.

2.5 Credit Hours.

DEPARTMENT OF MATHEMATICS

Professors	COL. C. P. NICHOLAS (Head of Department). COL. J. S. B. DICK.
Associate Professors	COL. G. W. BIXBY; LT. COL. J. H. CABANISS.
Assistant Professors	LT. COLS. W. H. KARSTEDT, D. H. SMITH; MAJS. R. W. BEASLEY, JR., L. W. CAFFEY (Executive Officer), J. E. CULIN, K. W. OLSON, R. H. WAGNER; CAPTS. G. S. BRUTON, JR., E. A. DAGGIT, N. B. DOWNEY, L. E. DUKE, T. W. FIFE, JR., R. G. MACLENNAN, H. R. MEYER, R. T. REED, G. STUKHART, JR.
Instructors	MAJS. J. P. CHANDLER, D. L. EMERSON, E. D. PATTERSON, T. E. ROGERS; CAPTS. C. R. BAISH, JR., W. R. BALDWIN, T. F. BAMFORD, D. H. CAMERON, J. L. CANNON, J. H. COUSINS, H. T. CROONQUIST, S. P. A. DARLING, A. M. R. DEAN, D. F. DAVIS, L. M. EBERHART, J. A. EUBANKS, R. C. EWAN, JR., B. M. FILASETA, J. GANAHL, W. L. HORN, M. L. KRUPINSKY, R. S. McGARRY, G. K. OTIS, J. S. SIBLEY, C. L. SPETTEL; 1ST LTS. N. G. BLAHUTA, J. P. CAMPBELL, F. J. FRENCH.

The mathematics program which a cadet must complete in order to graduate from West Point is given during his first two years at the Military Academy and consists of either the standard program or the advanced program. The latter is designed primarily for selected cadets who, as a result of exceptional aptitude or prior mathematics achievement beyond the normal college preparatory work, are ready to study mathematics above the level of the standard program. In some cases a cadet pursues a mixed program, in which he takes one or more advanced courses in lieu of the corresponding standard course work. During the first year the cadet attends mathematics six days a week; during the second year three days a week. The two principal programs, each of two years' duration, are defined as follows:

Standard Program: Mathematics, 101–103–104–201–202–204.

Advanced Program: Mathematics, 151, 153, 154, 251–201c–252–254.

The details are given in the outline of the course content below.

STANDARD COURSES

MATHEMATICS 101.

A basic course with content as follows:

ANALYTICAL TRIGONOMETRY. Plane and spherical trigonometry with emphasis on the analytical aspects.

SOLID GEOMETRY. A college level treatment of important theorems of solid geometry.

INTRODUCTION TO MATRIX ALGEBRA. A brief treatment of the fundamental matrix operations and algebra of 2 x 2 matrices, with applications to systems of linear equations.

4 Credit Hours.

MATHEMATICS 103.

A basic course treating:

ANALYTIC GEOMETRY. Cartesian coordinates in the plane; loci of equations of the first, second, and higher degree in two variables; the conic sections; polar coordinates; parametric equations.

4 Credit Hours.

NOTE: Selected topics in college algebra are interspersed in all courses as needed. No single course called College Algebra is given.

MATHEMATICS 104.

A basic course treating:

ANALYTIC GEOMETRY OF SPACE.

CALCULUS OF A FUNCTION OF A SINGLE VARIABLE. The fundamental concepts of differential calculus; differentiation of algebraic and transcendental functions; applications of the derivative; vector algebra and vector differentiation; a brief introduction to differential equations; and fundamental concepts of integral calculus.

8 Credit Hours.

MATHEMATICS 201. CALCULUS

Further development of integral calculus, to include recognition of antiderivatives, applications to engineering problems, geometrical and physical applications, infinite series, expansion of functions and operations with series, and multiple integrals.

5 Credit Hours.

MATHEMATICS 201c. CALCULUS

This course, taken concurrently with Mathematics 251, completes the 1 credit hour of Course 201 not covered in Mathematics 154.

1 Credit Hour.

MATHEMATICS 202. DIFFERENTIAL EQUATIONS

A brief course following completion of Course 201 and given prior to Course 204. Solution of standard types of first and second order equations using differential operators, method of undetermined coefficients, integrating factors; certain higher order equations; and applications to physics and engineering.

1 Credit Hour.

MATHEMATICS 203. CALCULUS

A slightly accelerated version of Course 201 to be followed by Courses 252 and 254.

5 Credit Hours.

MATHEMATICS 204. PROBABILITY AND STATISTICS

Permutations, combinations, and the elements of probability, the classification of data and computation of descriptive measures;

binomial, normal, and Chi-square distributions; statistical inference (sampling distributions, estimation, testing of hypotheses) and correlation.

2 Credit Hours.

ADVANCED COURSES

MATHEMATICS 151.

This course is taken by selected cadets who can qualify for validation of Mathematics 101. Cadets so qualifying receive validation credit for Mathematics 101 (4 credit hours). They then take Mathematics 151, which is Abstract Algebra with Military Applications.

This course is an introductory treatment of number theory and proofs, Boolean algebra, matrix theory, groups, rings, fields, linear systems and linear programing. Emphasis is placed on the development of fundamental mathematical theory which has wide application in many fields. The usefulness of the concepts is presented by practical problems.

3 Credit Hours (in addition to validation credit at 4 hours for Mathematics 101).

MATHEMATICS 153.

This course is open to cadets who complete Mathematics 151 or 101 with records which indicate an ability to take advanced work. Mathematics 153 is an accelerated treatment of Mathematics 103 plus a portion of Mathematics 104.

5 Credit Hours.

MATHEMATICS 154.

A continuation of Mathematics 153 covering completion of the content of Mathematics 104 and most of Mathematics 201.

11 Credit Hours.

MATHEMATICS 251. ADVANCED CALCULUS

Multiple integrals, vector operations, vector functions and their derivatives, derivatives of functions of several variables, partial derivatives, Jacobians, the Laplacian, vector differential and integral calculus, Green's Theorem, the Divergence Theorem, Stokes' Theorem, and integral calculus of functions of several variables.

3 Credit Hours.

MATHEMATICS 252. DIFFERENTIAL EQUATIONS

A more advanced and more extensive treatment than Mathematics 202, with greater emphasis on scientific and engineering applications. Solution of standard types of first and second order equations using differential operators, method of undetermined coefficients, integrating factors, variation of parameters; linear equations of higher order; Laplace transforms; series solutions; Legendre and Bessel equations; Fourier series; and applications to physics and engineering.

2 Credit Hours.

MATHEMATICS 254. PROBABILITY AND STATISTICS

A more advanced treatment than Mathematics 204, with heavier emphasis on calculus prerequisite. Fundamentals of probability to include random variables, probability distributions and the measures of those distributions, probability and density functions, moments and moment generating functions; derivation and uses of the binomial, normal, Student-t, and Chi-square distributions; basic statistical inference including the theory of estimation and hypothesis testing and the application of these techniques to problems of inference.

2 Credit Hours.

ELECTIVE COURSES

MATHEMATICS 481. ABSTRACT ALGEBRA WITH MILITARY APPLICATIONS

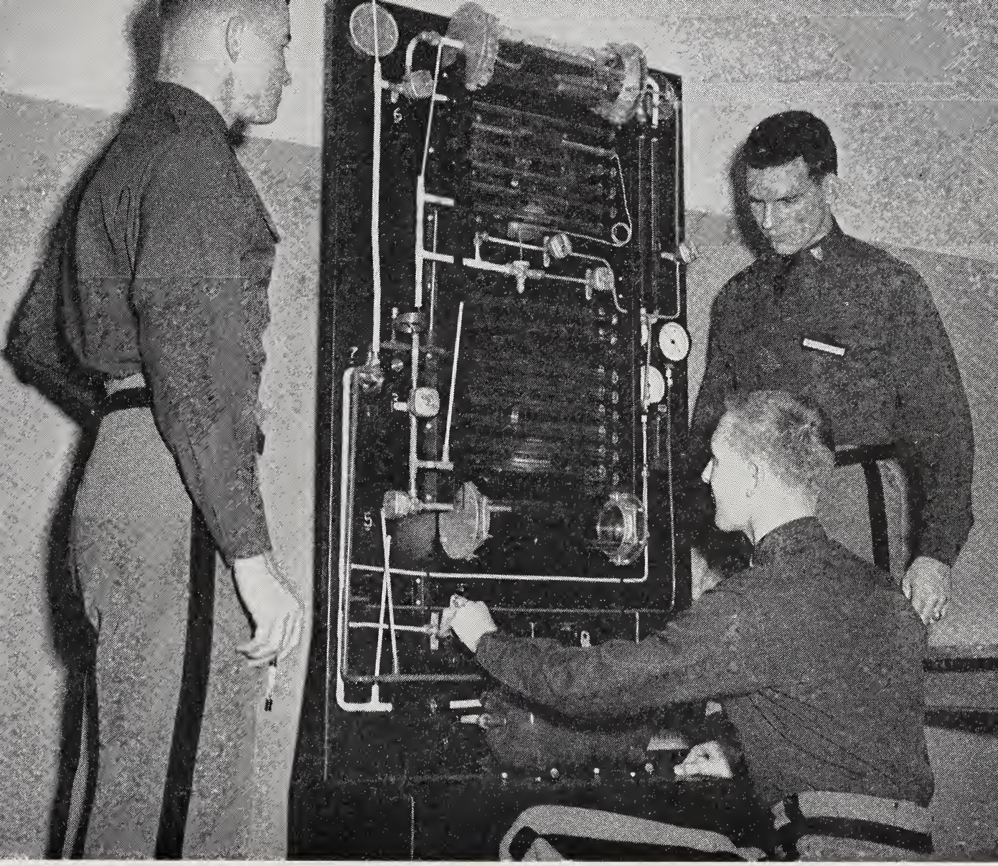
This course is an introductory treatment of number theory and proofs, Boolean algebra, matrix theory, groups, rings, fields, linear systems and linear programming. Emphasis is placed on the development of fundamental mathematical theory which has wide application in many fields. The usefulness of the concepts is presented by practical problems.

2.5 Credit Hours.

MATHEMATICS 482. ADVANCED CALCULUS

Vector operations, vector functions and their derivatives, derivatives of functions of several variables, partial derivatives, Jacobians, vector differential and integral calculus, integral calculus of functions of several variables, Green's Theorem, the Divergence Theorem, and Stokes' Theorem.

2.5 Credit Hours.



Cadets Working in the Mechanics Laboratory.

DEPARTMENT OF MECHANICS

Professors	COL. E. R. HEIBERG (Head of Department). COL. H. R. FRASER.
Associate Professors	MAJS. P. T. BOERGER (Executive Officer), J. H. TORMEY.
Assistant Professors	MAJS. T. U. GREER, W. E. READ; CAPTS. E. P. ANDREWS, H. M. COYLE, R. T. DRURY, USAF, J. R. HENDRY, E. G. MILES, R. D. MOORE, W. T. MOORE, S. C. STEVENS, R. M. WILSON.
Instructors	CAPTS. J. C. BARD, H. F. BARNES, J. D. DAIGH, R. E. GOODWIN, M. F. MEADOR, J. M. MISCH, A. B. SUTTLE, JR., L. C. WAGNER, C. E. WATKINS; 1ST LTS. F. L. DONALD, USAF, H. W. MUNSON.

STANDARD COURSES

MECHANICS 301. THERMODYNAMICS

A study of the transfer and conversion of thermal energy and mechanical energy. The course includes a study of fundamentals, types of energy, properties of thermodynamic media, the first and second laws of thermodynamics, the ideal gas, thermodynamic processes, gas engine cycles, vapor power cycles, refrigeration, nozzles and jet propulsion, and mixtures. The more capable students study the fundamentals of heat transfer in lieu of certain reviews and examinations.

LABORATORY. A correlation of theory previously covered in the classroom with actual performance. The equipment used includes gasoline, Diesel and fuel research engines, steam engines and turbines, air compressors, gas turbines, and refrigeration and air conditioning units.

4 Credit Hours.

MECHANICS 302. FLUID MECHANICS

A study of the laws of mechanics as they apply to liquids, vapors, and gases. The course includes a study of fluid properties; principles of fluid statics; fluid flow concepts; impulse-momentum; viscous effects; closed conduit flow; boundary layer and basic drag concepts; dimensional analysis and dynamic similitude; flow measurement; open channel flow; aerodynamics with emphasis on lift, drag, flight stability, and shock effects in transonic and supersonic flight; compressible flow. The more capable students solve a special problem in lieu of certain reviews and examinations.

LABORATORY. Practical exercises illustrating theory previously studied in the classroom. Equipment used includes pumps, turbines, flow measurement devices, pipe friction measurement devices, supersonic and subsonic wind tunnels, smoke tunnels, and a supersonic nozzle thrust stand.

4 Credit Hours.

MECHANICS 303–304. ENGINEERING MECHANICS

The principles of mechanics considered essential for an understanding of engineering, including the study of statics, kinematics, and kinetics. The statics portion of the course includes components of forces, moments, couples, dimensional equations, resultants, centroids, centers of gravity, centers of pressure, free body diagrams, equilibrium, trusses, friction, and moments of inertia of areas and masses. The kinematics portion of the course includes both absolute and relative motion of particles and rigid bodies including the study of displacement, velocity, and acceleration, and the study of trajectories. The kinetics portion of the course includes a study of the force, mass, and acceleration method, the work and kinetic energy method, and the impulse and momentum method for particles and for rigid bodies with translation, rotation, or plane motion.

5 Credit Hours.

MECHANICS 306. MECHANICS OF MATERIALS

A study of the relations between loads and the resulting deformations and stresses in non-rigid bodies. Axial, torsional, flexural, column, and combined loadings are studied. Primary emphasis is placed on elastic behavior, but a brief analysis of the plastic range of stress is included. The course includes stress at a point using Mohr's Circle, statically indeterminate axially loaded structures, thin wall vessels, temperature effects, torsion of circular members, flexure, shear and moment diagrams, shear in beams, beam deflections by double integration, beams of two materials, columns, and combined loading.

LABORATORY. Exercises illustrating theory previously discussed in the classroom. Tests are conducted with tension, torsion, beam and column loadings. In addition, combined torsion and beam loading experiments are conducted by the upper third of the class.

3 Credit Hours.

ADVANCED COURSES

MECHANICS 351. AUGMENTED THERMODYNAMICS

Basis of selection: demonstrated ability for more rapid and comprehensive work. An accelerated coverage of the subjects indicated in Mechanics 301 followed by a more rigorous and sophisticated approach to a study of the first and second laws and their consequences. The use of the calculus is emphasized in deriving basic relationships which are applicable to all the applied sciences. Selected laboratory exercises of Thermodynamics 301 are included in this course.

4 Credit Hours.

MECHANICS 353–354. AUGMENTED MECHANICS

Basis of selection: demonstrated ability in mathematics and physics for more rapid and comprehensive work. An accelerated coverage of the subjects indicated in Mechanics 303–304 using vector approach in deriving basic relationships and in solving problems, plus a more rigorous study of gyroscopic effects and an introduction to the theory of vibrations. Lagrange's equations. Hamilton's principle.

5 Credit Hours.

ELECTIVE COURSES

MECHANICS 481s. AIRCRAFT PROPULSION

Application of the principles of mechanics in the performance and analysis of turbojet and ramjet propulsion systems. This course begins with a review of thermodynamics and fluid mechanics, including a study of ideal gas equations, nozzle and diffuser flow, normal shock waves, and the conservation equations of energy, mass, and momentum. Ramjet and turbojet propulsion systems are discussed separately to include general characteristics, simplified analysis of operation, design point performance, equilibrium running, thrust augmentation, and after-burning.

2.5 Credit Hours.

MECHANICS 483s. SPACE MECHANICS

An introduction to the trajectory problem of the space vehicle. The course includes a consideration of the minor planets and comets for background, the development of Kepler's Laws of motion, the geometry of the two-body elliptical, parabolic, and hyperbolic orbits, principal coordinate systems, and astrodynamic constants. There is brief consideration of the n-body problem, special and general perturbations, and non-gravitational and relativistic effects. The final phase of the course is devoted to the application of basic principles to satellite, lunar, and interplanetary missions. For those cadets interested and capable, there will be advanced work in orbit determination using Gibbs' or Laplacian methods.

2.5 Credit Hours.

NOTE: Courses with the suffix "s" are offered in both the fall and spring terms.

DEPARTMENT OF MILITARY ART AND ENGINEERING

Professors	COL. V. J. ESPOSITO (Head of Department). COL. C. H. SCHILLING.
Associate Professors	LT. COL. A. D. FISKIN, JR.; MAJ. R. S. HARTLINE (Executive Officer).
Assistant Professors	LT. COLS. C. L. HELTZEL, K. P. PITTS; MAJS. A. L. GRIEBLING, T. T. JONES, J. L. KELLY, P. L. LANSING, R. J. PARR; CAPT. J. M. NEIL.
Instructors	LT. COLS. J. R. ELTING, A. J. FORSYTHE, H. ROMANEK, W. F. ROOS, D. E. WILBOURN; MAJS. J. W. BRENNAN, L. A. BROWN, F. R. DAY, W. H. JOHNSON, H. LOHN, T. J. PERKINS, G. W. SCHULZ; LCDR. V. M. DURONIO, USN; CAPTS. B. B. ATON, USAF, B. T. BASHORE, A. C. ESSER, A. J. MAYER, W. E. VANDENBERG, E. M. WILLIS, D. WILSON.

STANDARD COURSES

HISTORY OF THE MILITARY ART 401–402.

The evolution of the art of war—on land, on sea, and in the air. Ancient concepts of war; the impact of successive technologic advances on the conduct of war in the strategic and tactical fields; the attributes of great military leaders and their contributions to the advancement of the art of war; the development and application of the principles of strategy; the growing influence of logistics upon strategy and tactics that has come about because of the expansion of the spheres of conflict, of the employment of huge military forces, and of the methods and means of warfare; the growth, influence, and interrelation of land, sea, and air power in military operations; the principles governing the organization and functioning of high commands in joint operations; and studies of military leaders of the Army, Navy, Air Force, and of unified commands. The course also points out the impact on warfare of nonmilitary factors—treated in detail by the Department of Social Sciences—concurrently with the study of military operations.

8 Credit Hours (4 each term).

CIVIL ENGINEERING 401. STRUCTURAL ANALYSIS

Analysis of stresses in statically determinate and indeterminate structures and structural members due to uniform loadings, concentrated loadings, and combinations thereof. It includes determination of reactions, shear, moment, and axial stresses; placement through the use of influence lines of moving live loads to produce maximum stress; the analysis of maximum stress in simple and subdivided, parallel and non-parallel chord trusses, continuous beams, and basic structural frames; the analysis of members subject to reversal of stress; introduction to the analysis of long span structures, space frames, and cables; and approximate methods of analysis of indeterminate structures. Analytical methods utilized in indeterminate structures include moment-area and moment distribution. The augmented course given upper sections (upper 30–40 percent of class) consists of the above with the following additional material: influence lines for K and subdivided trusses; analyses of more complicated indeterminate structures using the methods of virtual work and moment distribution with sidesway correction; settlement and elastic supports; and introduction to slope deflection.

4 Credit Hours.

CIVIL ENGINEERING 402. STRUCTURAL DESIGN

Study of the principles and theory of design of steel and timber structures, with an introduction to reinforced concrete design. It includes design of beams with consideration of flange buckling, plate girders, tension and compression members (built-up members), members subject to combined direct stress and flexure, riveted and welded joints; engineering characteristics of timber as a material; design of a simple timber structure; solution of a complete engineering analysis-design problem starting with the development of the engineering concept and requiring creative thought and application of principles studied previously. The augmented course given upper sections consists of the above with the following additional material: a more comprehensive engineering analysis-design problem; the basic theory of reinforced concrete design to include design of beams, slabs, web reinforcement, and columns; introduction to prestressed concrete design.

3 Credit Hours.

CIVIL ENGINEERING 404. SOILS AND CONCRETE

Study of soils classification and identification systems, engineering characteristics of soils, soils design based upon the California Bearing Ratio as applied to highways and airfields, and protective characteristics of soils against nuclear weapons effects. Instruction in concrete includes engineering characteristics of concrete as a material; fundamentals of concrete proportion and mix design, placement and curing; use in shielding against nuclear radiation effects. Concrete laboratory work includes standard quality and control tests and demonstration of the fundamental laws. The augmented course given upper sections includes a more extensive coverage of the above topics.

1 Credit Hour.

HONORS COURSE

CIVIL ENGINEERING 451–452.

The Honors Course for exceptionally capable cadets includes the topics listed above in the three standard courses. The cadet accelerates this study at a pace governed by his own individual capability. He is excused from regular class formations, instead meeting weekly (minimum) with his advisor. Teaching techniques normally used for graduate students are employed, emphasizing individual study and research. The time gained is used to cover one or more advanced topics of cadet choice or an individual analytical and/or laboratory project, where approved by the advisor. Typical approved additional topics from which the cadet may choose include but are not restricted to the following:

STRUCTURAL ANALYSIS. Analysis of space frames; analysis of indeterminate structures to include the general method, slope deflection, conjugate structure, and column analogy; introduction to analysis of structures subjected to dynamic loadings; introduction to analysis of structures by the plastic theory; electronic digital computers and their application to the solution of civil engineering problems.

STRUCTURAL DESIGN. An extension of reinforced concrete design; basic theory of prestressed concrete; and a more advanced engineering analysis-design problem involving individual analytical investigation and/or experimental investigation.

SOILS AND CONCRETE. Characteristics of air-entrained concrete, soil mechanics laboratory, and soil trafficability.

8 Credit Hours.

ELECTIVE COURSES

HISTORY OF THE MILITARY ART 481. ADVANCED H.M.A. I.

Choice of: (1) Ancient and Medieval Warfare (500 B.C.–1500 A.D.)
(2) Early Modern Warfare (1500–1815)

HISTORY OF THE MILITARY ART 482. ADVANCED H.M.A. II.*

Choice of: (1) or (2) as above, or,
(3) 19th Century Warfare (1815–1914)
(4) 20th Century Warfare (1914–1960)

A more penetrating study of military eras covered broadly in History of the Military Art 401–402, and of contiguous military periods not covered in the basic course 401–402.

2.5 Credit Hours Each.

CIVIL ENGINEERING 481s. DESIGN OF CONCRETE STRUCTURES

The theory of reinforced concrete design including the concept of prestressed concrete, with a study of the application of this type of construction to various engineering structures. This course will include a basic study of concrete as a material, and the investigation and design of conventional structural shapes (beams, slabs, columns, footings, retaining walls) and of basic structures. Ultimate strength theory will also be included. For those cadets who so desire, a special subcourse will be offered in the application of electronic computers to the solution of structural problems in concrete to include the basic principles of programing techniques, capabilities, and limitations.

2.5 Credit Hours.

CIVIL ENGINEERING 484. ADVANCED STRUCTURAL ANALYSIS

This course provides a continuation of the study of structural analysis into the area of indeterminate structures. Methods of analysis appropriate to both the elastic theory and the plastic theory will be studied. Elastic theory methods will include conjugate beam, Castigliano's Theorems and related energy methods, three-moment equation, slope deflection, moment distribution to include two degrees of freedom, and numerical approximate analysis. For those cadets who so desire, a special subcourse will be offered in the application of electronic digital computers to the solution of structural problems to include the basic principles of programing techniques, capabilities, and limitations.

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* Cadets may elect (1) or (2) only if they have not taken course during first term.

NOTE: Courses with the suffix "s" are offered both in the fall and spring terms.

2.5 Credit Hours.

CIVIL ENGINEERING 485s. SOIL MECHANICS

This course provides a study of the basic principles and fundamentals of soil mechanics and of the application of these principles to engineering problems. Soils classification and identification systems and the engineering characteristics of soils will be emphasized with field and laboratory work to include compaction tests, Atterberg limits, grain size analysis, CBR test and water content determination. Engineering problems will include the military problem of cross-country mobility as affected by soil trafficability, and foundation problems such as the prediction of settlement of structures during and after construction, selection of type foundation for given soil conditions, footings and raft foundations, pile and pier foundations, retaining walls and abutments, shoring and underpinning, stabilization and drainage, and excavation and bracing procedures.

2.5 Credit Hours.

CIVIL ENGINEERING 488. INDIVIDUAL ENGINEERING PROJECT

Individually supervised study by selected cadets approved by the Deputy Head of the Department, in one or more of the specialized topics of civil and military engineering which are not covered in the regular course and which are of interest to the cadet. Topics will be of cadet choice as approved by the Department or from a list of suggested topics. Topics will be so constructed that the cadet will be presented an engineering problem which requires him to organize his own plan of attack; to determine his laboratory equipment, techniques, and procedure if laboratory work is involved; to analyze the problem; to study the fundamentals involved; and to achieve a solution. Such problems may involve design or limited research or investigation projects.

2.5 Credit Hours.

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DEPARTMENT OF MILITARY HYGIENE

Professor	COL. P. W. MALLORY (Head of Department).
Assistant Professor	MAJ. R. J. ROGERS.

STANDARD COURSES

MILITARY HYGIENE 101. FIRST AID, SANITATION, AND HYGIENE

Practical instruction in first- and self-aid, field sanitation, personal hygiene, and care of troops. Given as part of summer training.

MILITARY HYGIENE 102. ANATOMY AND PHYSIOLOGY

A basic consideration of the function of the human body to include mechanics of movement, production of energy, mechanisms of temperature control, reproductive mechanism, nervous system, the endocrine system, environmental medicine, and the effects of alcohol, tobacco, and drugs.

MILITARY HYGIENE 201. MEDICAL SERVICE WITH THE COMBINED ARMS

The organization, function, and employment of medical units with the combined arms. Emphasis is given to the system of evacuation of the sick and wounded, the effects of projectiles and explosives on the human machine. Given as part of summer training.

MILITARY HYGIENE 302. MILITARY MEDICINE

A brief course in the medical implications of blast, burn, and nuclear effects on the human machine. Coverage is also given to the psychiatric aspects of human behavior in the nuclear age.

DEPARTMENT OF ORDNANCE

Professor	COL. J. D. BILLINGSLEY (Head of Department).
Associate Professors	LT. COL. P. H. TANSEY, JR.; MAJ. J. R. MATHIAS.
Assistant Professors	MAJS. J. F. ICKLER, R. SHERMAN; CAPTS. J. P. HAUMERSEN, H. W. LACQUEMENT.
Instructors	CAPTS. T. H. BRAIN, F. KING, E. A. O'HAIR, E. C. THOMAS, USAF, T. E. WILLIAMS; 1ST LTS. J. A. LITTLE, R. E. PHILIPP, J. C. SCHOLZ, R. C. WESTERFELDT.

STANDARD COURSE

ORDNANCE ENGINEERING 401

The terminal course designed to give the cadet experience in the integrated application of scientific and engineering principles previously studied to Weapon Systems. Coverage includes sources of energy (explosives and fuels); ballistics; weapons systems and components including: electronic computers, control systems, inertial guidance, fuzing, propulsion, power plants, and power train components. Consideration of engineering materials, the development of design parameters for a complete weapon system and laboratory exercises are included.

8 Credit Hours.

ELECTIVE COURSES

AUTOMOTIVE ENGINEERING 481

An integrated engineering course designed to stress the engineering approach in the analysis of vehicular engineering systems. After an introduction to the problem of land mobility the course covers the detailed analysis of power plants, with their associated auxiliary systems, as well as power train and chassis components. The course is climaxed by the investigation of vehicle performance in terms of acceleration, power and load capacity. An integrated laboratory is designed to prove the theoretical analysis. Consideration is given to practical problems encountered by the U.S. Army in the field.

2.5 Credit Hours.

SCIENCE OF MATERIALS 482

The objective of the course is to give the cadet a basic knowledge of the underlying structure and forces which yield the observable properties of materials. The scope of this course will include both theoretical and mathematical analyses of the structure of materials and the laboratory verification of the theories using laboratory equipment including electric furnaces, optical microscopes, and an electron beam microscope.

2.5 Credit Hours.

INDIVIDUAL ORDNANCE PROJECT 483

The objective of the course is to permit advanced or specialized study of scientific principles applied in the field of Ordnance Engineering. Study may include either or both theoretical or laboratory effort based upon a sound preparatory investigation in mathematics and/or the basic sciences. Conduct of course will be on an individual or small group basis. Exact scope of study to be established by consultation between the cadet and the Professor of Ordnance. Performance will be based upon work completed, written reports, and periodic oral and written examinations.

2.5 Credit Hours.

DEPARTMENT OF PHYSICS AND CHEMISTRY

Professors	COL. E. C. GILLETTE, JR. (Head of Department). COL. J. R. JANNARONE.
Associate Professors	COL. C. H. WOOD; MAJ. R. C. CARNES.
Assistant Professors	MAJ. C. A. ROBERTSON, JR.; CAPTS. K. J. COFFMAN, C. A. DEBELIUS, G. R. FULLERTON, V. E. HAAS, W. J. HOFF, JR., A. J. KINGDOM, A. N. STUBBLEBINE, III.
Instructors	MAJS. D. W. EINSEL, JR., W. I. FOX, P. J. KENNEY, R. J. McNEIL, R. A. SHADE, R. E. THAYER; CAPTS. P. BAZILWICH, JR., G. W. CHANCELLOR, W. S. O'SULLIVAN, J. C. PEARSON, J. D. SMITH, N. W. SPARKS, W. M. STEVENS, J. H. VANSTON, JR.; 1ST LT. P. L. STYNES.

STANDARD COURSES

PHYSICS 201–202. GENERAL PHYSICS

A course in college physics for students of science and engineering, covering contemporary as well as classical concepts. Vector notation, vector algebra, and calculus are used throughout the course.

LABORATORY. A laboratory program designed to develop an appreciation of scientific techniques and to illustrate fundamental physical concepts is correlated and integrated with the course in physics. Advanced laboratory work is undertaken by selected cadets.

8 Credit Hours (4 each term).

CHEMISTRY 201–202. GENERAL CHEMISTRY

The study of the nature of matter and its nuclear, atomic, and molecular structure, the changes that take place in matter, and the associated kinds and amounts of energy involved, with particular emphasis on the fundamental concepts, principles, theories, and laws of general college chemistry.

LABORATORY. The laboratory program is integrated with the general chemistry course. It has been designed to develop an appreciation of investigative techniques, to illustrate fundamental concepts, and to include an introduction to qualitative analysis.

8 Credit Hours (4 each term).

ADVANCED COURSES

CHEMISTRY 251. ADVANCED INORGANIC CHEMISTRY

A one-semester study of special areas in inorganic chemistry for cadets who have demonstrated proficiency in the essentials of Chemistry 201–202.

LABORATORY. Selected experiments illustrate the reactions and mechanisms of ionic and covalent compounds.

4 Credit Hours.

CHEMISTRY 252. ORGANIC CHEMISTRY

Prerequisite: Chemistry 251.

A study of the fundamental principles and theories of organic chemistry, with emphasis on the concept of reaction mechanisms and structure as applied to molecules and chemical bonds.

LABORATORY. Experiments are selected to illustrate the behavior and identification of functional groups, and the preparation of organic compounds.

4 Credit Hours.

ELECTIVE COURSES

PHYSICS 481–482. INTRODUCTION TO THEORETICAL PHYSICS

A mathematical treatment of the fundamental laws, principles, and concepts of physics, utilizing vector analysis and differential equations. Topics covered include the laws of motion, gravitational fields, particle dynamics, rigid body motion, advanced dynamics, elastic media, elastic waves, fluid dynamics, electrostatics, magnetic fields, electromagnetic induction, Maxwell's

equations, electromagnetic properties of material media, physical optics, special relativity, and wave mechanics.
5 Credit Hours (2.5 each term).

CHEMISTRY 481–482. PHYSICAL CHEMISTRY

A course covering standard topics in physical chemistry such as: description of physicochemical systems, laws of thermodynamics, thermodynamics of chemical equilibrium, changes of state, solutions and phase equilibrium, kinetic theory, electrochemistry, reaction kinetics, colloids and radioactivity.

LABORATORY. Selected experiments are performed using precision physical measurements to illustrate colligative properties, thermochemistry, ionic equilibrium, transference and conductance, electrolysis and cell functions.
5 Credit Hours (2.5 each term).

DEPARTMENT OF SOCIAL SCIENCES

Professors	COL. G. A. LINCOLN (Head of Department). COL. A. A. JORDAN, JR.
Associate Professors	LT. COL. F. P. JONES; MAJS. R. H. NYE, C. J. SIMMONS (Executive Officer).
Assistant Professors	MAJS. E. DENTON, III, R. P. LEARY, F. E. TIBBETTS, G. P. TILSON, T. C. WILLIAMS; CAPTS. W. R. BELL, W. H. DINKINS, J. V. GIBNEY, A. B. JENNINGS, A. M. KARNS, J. E. RALPH, A. C. REMSON, JR., J. J. SAALBERG, P. E. SUPLIZIO, C. R. WALLIS.
Instructors	MAJS. R. E. LYNCH, J. L. MORRISON, J. S. SULENSKI; CAPTS. A. S. ALBRO, J. G. BOATNER, A. J. CATES, E. D. DAVIS, H. A. GARN, D. D. HORNER, C. L. MANGES, D. H. MARTIN, L. D. OLVEY, G. K. OSBORN, III, J. W. SEIGLE, D. P. SHAW, H. E. B. SULLIVAN, B. T. THOMPSON, D. A. VESSER, W. M. WIX; 1ST LT. F. J. ADAMS; 2ND LT. W. D. McCLELLAN.

STANDARD COURSES

SOCIAL STUDIES 201. HISTORY OF MODERN EUROPE: 1500 TO PRESENT

A survey of the major developments in the History of Europe since the Renaissance. The central thread of the course is political history, to which economic, intellectual and social developments are related, often through analysis of selected source readings.

3.5 Credit Hours.

SOCIAL SCIENCES 301.* HISTORY OF MODERN EUROPE AND AMERICA: 1870 TO PRESENT

An integrated survey of the History of Europe and America since 1870, with emphasis on the interrelationships of European and American developments to include an analysis of selected source readings.

1 Credit Hour.

SOCIAL SCIENCES 202. MODERN HISTORY OF THE FAR EAST

A cultural-political study of China, Japan, India, and South East Asia, designed primarily to underscore the differences in Eastern and Western cultures and the recent attempts of these areas to meet the challenge of modern Western world.

1.5 Credit Hours.

SOCIAL SCIENCES 302. NATIONAL GOVERNMENT OF THE UNITED STATES

A study of the dynamics of American politics, with emphasis on the processes, institutions, and problems of the national government. Students demonstrating greater capability read more extensively and prepare additional oral and written work designed to give them greater depth of knowledge and understanding of American domestic politics.

1.5 Credit Hours.

SOCIAL SCIENCES 304. CONTEMPORARY FOREIGN GOVERNMENTS

A comparative survey of the politics and political institutions of selected foreign countries, including Great Britain, France, and the Soviet Union. Students demonstrating greater capability read more extensively and prepare more oral and written work designed to give them greater depth of knowledge and understanding of comparative politics.

1 Credit Hour.

SOCIAL SCIENCES 401. ECONOMIC PRINCIPLES

A standard college-level survey course in basic economic principles, facts, and institutions with national income providing the unifying theme. Also included are some lessons and readings in consumer economics (principles of insurance and personal finance).

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*Transition year course. (Required during Academic Year 1961–1962 to move Social Sciences 201 to Third Class Year from Second Class Year.)

3.5 Credit Hours.

SOCIAL SCIENCES 403. ECONOMICS OF NATIONAL SECURITY

A survey course in the political economy of our national security to include coverage of such topics as stabilization of our economy, economic requirements, capabilities and readiness to support national security, industrial mobilization and maintenance of the plateau of preparedness, and national security aspects of international economics.

1.5 Credit Hours.

SOCIAL SCIENCES 404. INTERNATIONAL RELATIONS

A basic study of the world environment with particular emphasis upon the nature of the forces changing the relationships among nations in the post-World War II era and the role of the United States in world affairs. The theories and practices of interstate behavior are studied as well as the basic influences which condition the formulation and execution of United States foreign policy.

3 Credit Hours.

ADVANCED COURSES

SOCIAL SCIENCES 251. HISTORY OF RUSSIA

Offered to selected volunteers in lieu of the first semester Social Sciences 201.

An historical survey of the development of the Russian nation and its relations with the Western world, with particular emphasis on the nature of the Russian Revolution and the regime which it has produced.

2.5 Credit Hours.

SOCIAL SCIENCES 253. HISTORY OF THE MIDDLE EAST

Offered to selected volunteers in lieu of the first semester of Social Sciences 201.

A study of the historical development of the principal civilizations of the modern Middle East, with emphasis on the impact of the West and the resulting problems and issues.

2.5 Credit Hours.

SOCIAL SCIENCES 354. DIPLOMATIC HISTORY OF THE UNITED STATES

Offered to selected volunteers in lieu of Social Sciences 302.

The nature, origins, and development of the foreign policy of the United States from colonial times to the present. The object of the course is to give a basic understanding of the evolution of the foreign policy of the United States.

1.5 Credit Hours.

SOCIAL SCIENCES 360. POLITICAL PHILOSOPHY

Offered to selected volunteers in lieu of Social Sciences 302.

An introduction to the classic writings of Western political thought, emphasizing the emergence and refinements of the concept of constitutional government and the moral and ethical values which underlie that concept.

1.5 Credit Hours.

ELECTIVE COURSES**

SOCIAL SCIENCES 481s. HISTORY OF THE GREAT POWERS SINCE 1870

One Semester Course. Offered in both fall and spring terms to selected volunteers.

A study of the disintegration of the post-Napoleonic European order: the emergence of new national powers: the conflicts of interest and ideologies leading to the two World Wars: and the efforts to reestablish some means of preserving world peace.

2.5 Credit Hours.

SOCIAL SCIENCES 483s. NATIONAL SECURITY PROBLEMS

One Semester Course. Offered in both fall and spring terms to selected volunteers.

Consideration is given to the nature of the security problem, the organization for security policy formulation and control, alternative strategies and defense concepts, regional security and alliances, collective security and the United Nations, and cold war measures. The course includes lectures and informal discussion meetings with guest speakers.

2.5 Credit Hours.

SOCIAL SCIENCES 485s. GOVERNMENTAL PROBLEMS OF THE NON-WESTERN WORLD

One Semester Course. Prerequisites: Completion or validation of Social Sciences 302 and 304. Offered in both fall and spring terms to selected volunteers.

Examination of patterns and problems of government in Western and Non-Western societies. Attention will be centered on the

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**Social Sciences 251, 253, 354, and 360 will also be offered as part of the elective program.

varying East-West approaches to the common political functions all modern governments must perform. Trends such as the emerging political role of the military in less developed countries will be analyzed and their significance for and relation to U.S. security and other objectives appraised.

2.5 Credit Hours.

SOCIAL SCIENCES 486. COMPARATIVE ECONOMIC SYSTEMS

One Semester Course. Prerequisites: Social Sciences 401 and 403. Offered in spring term to selected volunteers.

The central themes of the course are the philosophical premises of capitalism, socialism, and communism and their contemporary manifestations in the actual operation of the evolving economic structures of the United States, Great Britain, the Soviet Union, and the underdeveloped countries. The main issues of the alternative systems, i.e., freedom versus equality, central planning versus individualism, and private enterprise versus social goals, will be raised in terms of the challenges posed by the changing environment of the foregoing countries. The problems and prospects of modern capitalism in a setting of Communist challenge, the rise of the welfare state, and the expectations of the underdeveloped areas will be given special attention.

2.5 Credit Hours.

DEPARTMENT OF TACTICS

Commandant of Cadets	BRIG. GEN. R. G. STILWELL.
Aide de Camp	1ST LT. R. E. WALKER.
Deputy Commandant	COL. K. W. COLLINS.
Brigade Staff	S1: MAJ. S. S. WALKER; Assistant: MAJ. J. P. KINGSTON; Personnel Officer: CWO J. S. SIMS; S3: LT. COL. F. E. BLAZEY; Assistants: MAJ. J. R. MILLER, MAJ. L. J. FLANAGAN (Ret.) (Inactive); S4: MAJ. E. G. HEILBRONNER; Assistant: CAPT. J. L. LILLIBRIDGE; SAO: MAJ. G. J. DUQUEMIN.
First Regiment	Commanding Officer: COL. T. C. CHAMBERLAIN; Executive Officer/S3: LT. COL. E. S. OTT; S1/S4: MAJ. W. C. LINDAHL; Company Tactical Officers: MAJS. W. A. DAUGHERTY, F. G. GOSLING, E. F. GUDGEL, D. H. HENDERSON, B. W. LEE, W. C. NORMAN, E. R. OCHS, E. A. PARTAIN, J. M. SCHULTZ; CAPTS. E. C. BETTS, R. C. FORMAN, R. E. GIBSON.

DEPARTMENT OF TACTICS—Continued

Second Regiment	Commanding Officer: COL. R. M. GLESZER; Executive Officer/S3: MAJ. R. A. KING; S1/S4: MAJ. G. F. HOGE; Company Tactical Officers: MAJS. J. J. DORNEY, R. F. HALLAHAN, R. N. KINNEY, R. L. MARCH, E. PARMLY, IV, R. J. TALLMAN, J. R. THURMAN, III; CAPTS. E. M. KNOFF, A. C. LUCAS, J. W. McCORMICK, R. G. TREFRY, D. G. WEINERT.
Office of Military Instruction	Chief: COL. R. C. CAMERON; Assistant Chief: MAJ. R. C. McALISTER; Instructors: LT. COLS. C. S. JOHNSON, JR., S. M. SEATON, B. C. SNOW, JR., C. E. SPRAGINS; MAJS. J. B. HOBSON, J. F. HOOKER, JR., W. B. WIER, JR.; CAPT. J. E. BOWEN, III.

MISSION:

1. To develop character exemplified by a strong sense of honor and high moral standards.
2. To instill a broad sense of duty and responsibility.
3. To provide a broad basic military education.
4. To develop the qualities and attributes of leadership.
5. To develop high standards of physical leadership.

Military instruction aims at indoctrination in the fundamental concepts of the science of tactics and provides study, practice, and orientation in the history, materiel, methods, and techniques of the various arms and services of the Armed Forces of the United States. With this basis the graduate has the foundation considered necessary for his progressive and continued development throughout a lifetime career as an officer of the Regular Army.

STANDARD COURSES

TACTICS 101–102. FOURTH CLASS TACTICS

SUMMER. Basic military training in preparation for the military life. Orientation and indoctrination in duty and honor. This period in New Cadet Barracks is one of intensive fundamental military training to include qualification with the U.S. Army rifle and tactical training of the individual designed to prepare the new cadet to take his place in the Corps when it reassembles late in August.

7½ Weeks. Ungraded.

ACADEMIC YEAR. A continuation of military education to stress basic theory, instill pride in the profession of arms, and form the background to further military study through instruction in Military Heritage, fundamentals of military science, basic map reading, and military hygiene.

2 Credit Hours.

TACTICS 201–202. THIRD CLASS TACTICS

SUMMER. To familiarize each cadet with the weapons of the Infantry Battle group, with the organization, equipment, and capabilities of the Tank Company, Artillery Battery, Engineer Combat Company, and the Signal Company as part of a combined arms team supporting Infantry units; familiarize each cadet with the field-type operations of the supporting services; provide practical map reading exercises; rigorous exercises in day and night patrolling and physical confidence training; teach and maintain proper standards of appearance, discipline, and physical condition. Emphasis is on practical application.

7½ Weeks. Ungraded.

ACADEMIC YEAR. Education of a more advanced nature to further understanding of Military Heritage of the Armed Forces and to introduce the tactical principles of offense and defense emphasizing the combined arms aspects, orientation on logistical support and principles, capabilities of the Soviet Army, and a review of the position of the Armed Forces in the National Military Establishment.

2 Credit Hours.

TACTICS 301–302. SECOND CLASS TACTICS

SUMMER. (1) A period of 2½ weeks devoted to an orientation trip to U.S. Signal Center, Fort Monmouth, and to advanced map problems, methods of instruction, orientation in Air Defense, Air Force, and Naval Operations, and physical education.

(2) One month duty as platoon leaders with combat units of U.S. Army Europe (7th Army), or as squad leaders during New Cadet Barracks.

Ungraded.

ACADEMIC YEAR. Continued instruction in Military Heritage. Tactical instruction stressing the combat organization of and support available to the reinforced battle group; basic principles of its employment in a combat role using typical situations in the attack, the defense and assault of a river line; implications of nuclear weapons, and logistical problems of a combined arms team.

2 Credit Hours.

TACTICS 401–402. FIRST CLASS TACTICS

SUMMER. (1) Orientation trip to U.S. Army Armor Center at Fort Knox, Ky.; Artillery and Missile Center at Fort Sill, Okla.; Air Defense Center at Fort Bliss, Tex.; Engineer Center at Fort Belvoir, Va.; and Infantry Center at Fort Benning, Ga. 2½ weeks.

(2) One month duty either as (a) platoon leaders with combat units of U.S. Army Europe (7th Army) for cadets who did not receive this type training in Second Class Year, or (b) leaders at command and staff levels during New Cadet Barracks or Camp Buckner.

Ungraded.

ACADEMIC YEAR. Instruction in responsibilities of junior officers, intelligence, logistics systems, organizational trends, the Military Assistance Program, deployment and contingent tasks of U.S. Military Forces, and Soviet military trends. Preparation of a 3000–3500 word monograph on a selected military topic.

2 Credit Hours.

MILITARY PSYCHOLOGY AND LEADERSHIP

Director	COL. P. V. TUTTLE.
Associate Director	LT. COL. E. J. GEANEY, JR.
Assistant Directors	MAJS. G. E. DEXTER, H. S. NAPIER, J. S. WIERINGA, JR.
Instructors	MAJS. T. W. BOWEN, H. A. BUCKLEY, R. J. PETERSEN, C. W. SPENCE, JR., C. R. STEPHENSON, III, USMC, V. F. WARNER, C. M. WATTERS, B. J. WICHLEP; CAPTS. S. M. DRISKO, J. O. HAYES, E. MARDER, T. C. WYATT.

STANDARD COURSES

MILITARY PSYCHOLOGY AND LEADERSHIP 201. PSYCHOLOGY

An introduction to some elementary concepts of psychology with emphasis on the behavior of the normal human. Detailed consideration of the nature of scientific psychology and its methods including learning, individual differences, personality, emotion and motivation problems of adjustment, and an introduction to leadership theory.

2.5 Credit Hours.

MILITARY PSYCHOLOGY AND LEADERSHIP 301. METHODS OF INSTRUCTION

Instruction in the personal and professional qualifications required of a military instructor. Emphasis placed on practical application in supervised presentations by each cadet of a lecture, a military lesson, critiques, and impromptu presentations. Included are theoretical instruction and practical application of the principles of learning and training methods and procedures including preparation, presentation, communication of information and skills, purposes and types of examinations, conduct of critiques, management and supervision of instruction, and selection and design of training aids.

1 Credit Hour.

MILITARY PSYCHOLOGY AND LEADERSHIP 402. LEADERSHIP IN THE SERVICE

A study of the principles and techniques to perform the military leadership functions at all levels of command. A conceptual framework of leadership is presented to relate and integrate theory and functions of military management and personnel management. Throughout stress is placed on the human element. Reinforcing the theory is free use of practical military situations, the classroom solution to which are accomplished through case study, group discussion, and role playing.

2.5 Credit Hours.

ELECTIVE COURSE

MILITARY PSYCHOLOGY AND LEADERSHIP 481s. HUMAN RELATIONS

A survey of research and principles developed in selected areas of social and managerial psychology. The course covers the socialization process to include the learning of language, development of attitudes and value systems. Emphasis is placed on the study of persons as members of a group and the resultant interpersonal relationships. Also included is a section on research methods and the application of human relations techniques in management.

2.5 Credit Hours.

NOTE: Courses with the suffix "s" are offered in both the fall and spring terms.

Cadets Checking Grades

PHYSICAL EDUCATION

Professor and Director	COL. F. J. KOBES, JR.
Assistant Director	LT. COL. W. T. CALL, JR. (Executive Officer).
Professional Assistant	DR. L. O. APPLETON.
Intramural Supervisor	CAPT. W. H. NUTTING.
Instructors	MAJ. J. H. DALLMAN; CAPTS. W. L. HARRISON, E. A. THOMPSON, S. M. TOUCHSTONE; DR. A. C. WERNER; MESSRS. L. A. ALITZ, R. M. BRUCE, J. B. KRESS, H. J. KROETEN, W. F. LEWIS, G. W. LINCK, T. E. MALONEY, J. M. PALONE, R. E. SORGE.

STANDARD COURSES

PHYSICAL EDUCATION 101–102. PHYSICAL DEVELOPMENT

Instruction designed to develop personal requisites for military effectiveness, the basic elements underlying physical ability (strength, muscular endurance, cardio-respiratory endurance, power, coordination, agility, balance, and flexibility), individual physical ability skills, and to enhance mental health and efficiency. These aims are accomplished through instruction in gymnastics (apparatus), boxing, wrestling, and swimming.

2 Credit Hours (1 each term).

PHYSICAL EDUCATION 103–104. ATHLETIC PARTICIPATION

Player competition in fall intercollegiate sports of cross country, football, soccer, and 150-pound football; winter intercollegiate sports of hockey, pistol, rifle, squash, swimming, track, wrestling, basketball, and gymnastics. Apart from intercollegiate athletics, the intramural athletic program provides player competition in the fall sports of football, soccer, golf, tennis, track, and triathlon; winter sports of basketball, boxing, handball, squash, volleyball, wrestling, and water polo. For nonintercollegiate contenders, the intramural program provides a broad sports background while conditioning, teaching basic athletic skills, and giving experience in coaching teams and administering athletic programs.

1 Credit Hour (.5 each term).

PHYSICAL EDUCATION 156. ADVANCED PHYSICAL DEVELOPMENT

Instruction and participation in the sport of handball for those individual cadets who demonstrate a superior level of achievement at mid-course in Physical Education 101–102. Credit Hours included in Phys Ed 101–102.

PHYSICAL EDUCATION 201–202. ORIENTATION IN ATHLETIC SKILLS

Instruction designed to foster carry-over athletic skills which will insure fitness in later years through the development and application of advanced physical skills and expansion of the repertory of individual and team sports to include basketball, handball, volleyball, badminton, or squash.

1 Credit Hour (.5 each term).

PHYSICAL EDUCATION 203–204. ATHLETIC PARTICIPATION

As listed under Physical Education 103–104, except that intramural participation must be in a sport in which the cadet has not previously engaged.

1 Credit Hour (.5 each term).

PHYSICAL EDUCATION 206. INSTRUCTOR TRAINING

Instructions and application in methods and techniques of conducting conditioning exercises and allied physical training activities.

.5 Credit Hour.

PHYSICAL EDUCATION 302. DEVELOPMENT OF ATHLETIC SKILLS

Emphasis is placed on further expansion of the individual repertory of individual and team sports to include squash or handball (whichever was not received in Phys Ed 201–202); increased emphasis on carry-over athletic skills which promote fitness. Physical Education 352 provides advanced instruction in volleyball for those cadets previously demonstrating proficiency in handball and squash.

.5 Credit Hour.

PHYSICAL EDUCATION 303–304. ATHLETIC PARTICIPATION

As listed under Physical Education 103–104, except that intramural participation must be in a sport in which the cadet has not previously engaged.

1 Credit Hour (.5 each term).

PHYSICAL EDUCATION 401. HAND-TO-HAND COMBAT

Emphasis is placed on instructor and leadership training through advanced training in the combative skills of hand-to-hand combat. Practice teaching in Fourth Class Physical Education classes.

.5 Credit Hour.

PHYSICAL EDUCATION 403–404. ATHLETIC PARTICIPATION

As listed under Physical Education 103–104, except that intramural participation must be in a sport in which the cadet has not previously engaged.

.5 Credit Hour

ADDITIONAL COURSES

PHYSICAL EDUCATION 050. REMEDIAL INSTRUCTION

A special program of weight control and reconditioning, basic swimming, voluntary conditioning, and including a posture clinic to assist those cadets who experience difficulty in achieving minimum standards of proficiency. Open to all classes.

Ungraded.

PHYSICAL EDUCATION 182, 282, 382, 482. SPRING ATHLETIC PARTICIPATION

With the same objectives as stated in Physical Education 103–104, the spring program offers player competition in intercollegiate sports of baseball, lacrosse, golf, tennis, track, pistol, and rifle, or voluntary competition in the spring intramural program consisting of canoe racing, cross country, lacrosse, softball, and tennis. Approximately 89 percent of the Cadet Corps participates in this program.

Ungraded.

ACTIVITIES

CADET ACTIVITIES

Contrary to popular opinion, cadets do not spend all their time parading, shining shoes, and studying. There are many opportunities for social and recreational activities.

During the summer there is swimming at Delafield Pond and picnicking at Delafield, Camp Buckner, and Constitution Island. Picturesque Flirtation Walk winds for three-quarters of a mile along the majestic Hudson, offering a peaceful and shady retreat from the walls of barracks. Cadets stationed at Camp Buckner during the summer months of Yearling year enjoy swimming, canoeing, fishing, skeet, water skiing and sailing. In the fall, football is King and the Corps takes one or more football trips to Philadelphia or New York City where the bright lights are a welcome diversion. During the winter months, ice skating at Smith Rink and skiing on the Constant Ski Slope are extremely popular. The three upper classes go home for Christmas Leave. However, the Fourth Class which remains at West Point has a particularly enjoyable time because of the many activities which are scheduled in the festive and holiday mood. Throughout the academic year, weekly hops are held in either the gymnasium or Cullum Hall and movies are

A Cadet Dance in Cullum Hall.

Track Is Both an Indoor and Outdoor Sport.

shown in the Army Theater. Prominent entertainers and programs are brought to the Academy frequently for performances.

In addition to general recreational activities, there are 60 organized extracurricular activities. Student government type activities are the Honor Committee, Class Committees, and the Ring and Crest Committees in each class.

Those cadets who like music and acting are encouraged to utilize their talents in the Dialectic Society, Cadet Dance Orchestra, and the nationally-famous Cadet Glee Club. The Cadet Protestant, Catholic, and Jewish Choirs sing at religious services on the Post and usually make several appearances outside the Academy each year. The One Hundredth Night Show, the time-honored dramatic highlight presented annually by the Dialectic Society celebrating the one hundredth night before graduation, is written, produced, and acted solely by cadets.

Hobbyists find relaxation, as well as opportunities to test and improve their skills as members of the Art, Camera, Outdoor Sportsmen's, Model Airplane and Model Railroad Clubs.

Those who are interested in literary activities may seek outlets for their talents in **The Howitzer,** yearbook for the Corps of Cadets; **The Pointer,** official magazine of the Corps of Cadets; and **Bugle Notes,** the cadet handbook more commonly known as the **"Plebe Bible."** Cadet press representatives conduct interviews and prepare hundreds of releases for hometown newspapers.

For those who want to explore fields of academic study on a

Army's "Lonely End" Runs Into Trouble.

broader or more intensive basis than is provided in the academic curriculum, there are the English Literature Seminar, the Mathematics Forum, five language clubs, Astronomy, Ordnance, Radio, Audio and Rocket Clubs, and one of the largest and most active organizations at the Military Academy, the West Point Debate Council and Forum.

To round out the great variety of opportunities for recreation there are those clubs which compete with other colleges. These include the Handball, Pistol, Rifle, Fencing, Sailing, Skeet, Ski, Water Polo, Golf, Bridge, Chess, Triathlon, Gymnastics, and Parachute Clubs.

Organized extracurricular activities are directed and administered almost entirely by the cadets themselves subject to the approval of the Superintendent. There is an officer in charge of each activity, who acts in an advisory capacity. From these activities, cadets acquire a wealth of knowledge or develop latent talent which subsequently will serve them well and be a source of pleasure in their careers as officers.

INTERCOLLEGIATE ATHLETICS

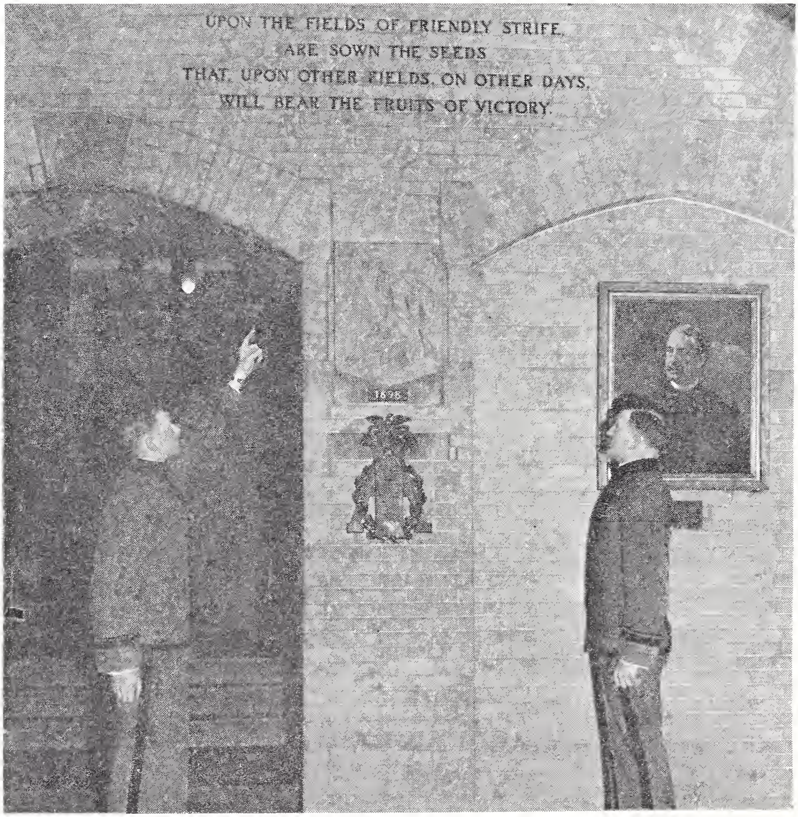
Athletic Board	COL. CHARLES J. BARRETT (Chairman), BRIG. GEN. RICHARD G. STILWELL, COL. EMORY S. ADAMS, JR. (Secretary), COL. ELVIN R. HEIBERG, COL. JOHN R. JANNARONE.
Director of Athletics	COL. EMORY S. ADAMS, JR.
Coaches	Baseball and 150-lb. Football, ERIC TIPTON. Basketball, GEORGE HUNTER. Cross Country and Track, CARLETON CROWELL. Football, DALE HALL; assistants, TOM CAHILL, CHARLES GOTTFRIED, CHARLES KLAUSING, FRANK LAUTERBUR, JOHN RAUCH, JAMES VALEK, 1ST LTS. A. L. BULLOTTA and D. W. HOLLEDER. Golf, WALTER R. BROWNE. Gymnastics, THOMAS E. MALONEY. Hockey, JOHN P. RILEY. Lacrosse, JAMES F. ADAMS. Pistol, S/MAJ. H. L. BENNER. Rifle, M/SGT. O. L. GALLMAN. Soccer, JOSEPH PALONE. Squash and Tennis, LEIF NORDLIE. Swimming, JACK RYAN. Wrestling, LEROY ALITZ.
Staff	Trainer, ED PILLINGS. Publicity, JOE CAHILL.

Intercollegiate athletics are supervised by the Athletic Board, which is appointed by and is directly responsible to the Superintendent. The intercollegiate athletic program is financed by the Army Athletic Association, a self-supporting and nonprofit organization consisting of approximately 12,000 graduates of the Military Academy. No Government funds are appropriated for equipment, maintenance, and operation of the vast intercollegiate athletic plant.

A total of 17 sports are included in a complex schedule that keeps nearly half of the Corps of Cadets actively engaged in competitive sports throughout the academic year. These sports are football (including 150-pound football), soccer, and cross country in the fall; basketball, indoor track, wrestling, swimming, gymnastics, hockey, rifle, pistol, and squash in the winter; and baseball, lacrosse, track, tennis, and golf in the spring.

Realizing the value of athletics to the Army, General Douglas MacArthur, who was Superintendent shortly after World War I, reorganized and strengthened the athletic system. "The training of the athletic field which," General MacArthur said, "produces in a superlative degree the attributes of fortitude, self-control, resolution, courage, mental agility and, of course, physical development, is one completely fundamental to an efficient soldiery."

Former President Dwight D. Eisenhower and Generals Omar N. Bradley and James A. Van Fleet are among the many distinguished wearers of the Army "A."


UPON THE FIELDS OF FRIENDLY STRIFE
ARE SOWN THE SEEDS
THAT, UPON OTHER FIELDS, ON OTHER DAYS,
WILL BEAR THE FRUITS OF VICTORY.

RELIGION

All cadets are assured a sound basic religious atmosphere. Each cadet must attend one of the weekly chapel services—Protestant, Catholic, or Jewish.

PROTESTANT

Protestant services are held in the Cadet Chapel every Sunday during the academic year and out-of-doors during the summer months. The Reverend Theodore C. Speers, D.D., is the Chaplain, and is assisted by The Reverend James D. Ford. The two regiments alternate in their attendance at the 8:50 and 11 a.m. services. Every Sunday a Holy Communion service is conducted according to the rites of the Episcopal, Lutheran, or Presbyterian Churches. On the first two Sundays of each month the early service is also a service of Holy Communion. At the morning worship service the form of worship is non-denominational in character and follows a procedure approved by the larger Protestant communions. Among the religious activities in which cadets take part are the Cadet Chapel Choir of 150 voices; the West Point Church School of more than 600 children of the Post taught entirely by 150 cadet Church School teachers; the Cadet Chapel Acolytes; and a program of morning devotions, conducted every weekday at 6:30 a.m. in Mahan Hall.

CATHOLIC

Catholic cadets attend Holy Trinity Chapel, the Catholic Chapel on the Post. The Right Reverend Monsignor Joseph P. Moore is the Rector, and is assisted by The Reverend Robert F. McCormick. Catholic members of the two cadet regiments alternate in attending the 8 and 10:30 a.m. Masses to facilitate frequent reception of Holy Communion and to give opportunity for assisting at High

DUTY
HONOR
COUNTRY

Masses. The 10:30 a.m. Mass each Sunday is a Missa Cantata. A cadet Catholic choir sings at the High Masses and other liturgical ceremonies. Daily Mass is celebrated at 6:15 and 7 a.m. throughout the academic year. Confessions are heard on Saturday, daily at Mass times, and as desired. A cadet Cardinal Newman Forum meets each week. By means of lectures, instructions and seminars, it treats of religion, morals, and philosophy.

JEWISH

Jewish worship services are held in the Old Cadet Chapel every Sunday at 8 a.m. during the academic year and at 10:30 a.m. during the summer season. Rabbi Norman Kahan is the Jewish Chaplain. High Holy Day services are held at Temple Beth Jacob, Newburgh, N.Y., where the Jewish Chaplain serves as spiritual leader. Festival services are conducted in the Old Cadet Chapel and a special Passover Seder is held yearly at the U.S. Hotel Thayer. The Jewish Chapel Squad Choir sings the liturgical music at every service. The Jewish cadet also participates in the Torah Service and periodically assists in the reading of the liturgy.

LECTURE PROGRAM 1960-1961

Lectures sponsored by various activities at the Military Academy are supervised by the General Lecture Committee. The academic work of the attending class or classes (shown in parenthesis) was in almost every case coordinated with the subject of the lecture. A list of the lectures for the academic year 1960–1961 follows:

Special Lecture

KERMIT ROOSEVELT MEMORIAL LECTURE

LT. GEN. SIR CHARLES P. JONES, KCB, CBE, MC, Great Britain, "The Spice of Life" (First-Second).

Departmental Lectures

DEPARTMENT OF EARTH, SPACE AND GRAPHIC SCIENCES

MR. DAVID B. DOAN, Military Geology Branch, U.S. Geodetic Survey, Washington, D.C., "Introduction to Physical Geography" (Fourth).

DR. PRESTON E. JAMES, Head of Department of Geography, Syracuse University, "The Riddle of Empty Brazil" (Fourth).

DR. FRANK K. EDMONDSON, Professor of Astronomy, Indiana University, "New Tools for Astronomy" (Fourth).

MR. T. D. NICHOLSON, Associate Astronomer, The Hayden Planetariam, New York, N.Y., "Galactic Organization" (Fourth).

DR. GEORGE B. CRESSEY, Maxwell Professor of Geography, Syracuse University, "Soviet Potential" (Fourth).

DR. JOHN H. HELLER, Director of New England Institute for Medical Research, "Man in Space" (Fourth).

DR. KARL G. HENIZE, Department of Astronomy, Northwestern University, "Current Events in Astronomy—Astronautics" (Fourth).

DR. JOHN E. BRUSH, Professor of Geography, Rutgers University, "India" (Fourth).

DEPARTMENT OF ELECTRICITY

COL. WALTER E. LOTZ, JR., Chief, Electronics Warfare Department, U.S. Army Electronic Proving Ground, Fort Huachuca, Ariz., "Present and Future Military Applications of Electronics" (Second).

LT. GEN. L. R. GROVES (Ret.), Vice President, Remington Rand Corp., "Atomic Energy and the Manhattan Engineer District" (Second).

DEPARTMENT OF ENGLISH

LT. GEN. JAMES M. GAVIN (Ret.), Arthur D. Little Co., Boston, "Literature and the Soldier" (First).

MR. CHARLES SALTZMAN (Maj. Gen. USAR), New York, N.Y., "The Need to Understand Our National Character" (Fourth-Advanced Sections).

DEPARTMENT OF FOREIGN LANGUAGES

LT. COL. H. P. WINTERHAGER, Assistant Military Attaché, German Embassy, Washington, D.C., "German-Russian Leadership" (Third-German).

MR. VINCENT GUILLOTON, Professor of French, Smith College, "Avec les Soldats de Rochambeau de Newport a Yorktown 1780–1782" (Third-French).

RUEDIGER VON WECHMAR, German Consul, New York, N.Y., "Germany's Place in the Defense Community of the Free World" (Third-German).

DR. FRANCIS M. ROGERS, Professor of Romance Languages, Harvard University, "O Infante D. Henrique" (Third-Portuguese).

MR. NICHOLAS FERSEN, Russian Instructor, Williams College, "Russian Literature" (Third-Russian).

MR. PIERRE TISSEYRE, Director, Le Cercle du Livre de France, Montreal, Canada, "55 Heures de Guerre" (Third-French).

MR. ROBERTO ESQUENAZI-MAYO, Author, "Mis Experiencias en la OSS" (Third-Spanish).

DR. ANGEL DEL RIO, Professor of Spanish, Barnard College, "Latinoamérica" (Third-Spanish).

PROF. PILAR DE MADARIAGA, Vassar College, "Azorin" (First-Spanish).

DEPARTMENT OF MECHANICS

MR. NEIL MacCOULL (Ret.), Formerly Consulting Engineer, Beacon Laboratories, The Texas Co., Beacon N.Y., "The Practical Thermodynamics of Automobiles" (Second).

DR. J. P. DEN HARTOG, Professor of Mechanical Engineering, Massachusetts Institute of Technology, "Mechanical Vibrations" (Second).

DR. JOSEPH J. CORNISH, III, Head of the Aerophysics Department, Mississippi State University, "Light Aircraft Development" (Second).

DR. H. GUYFORD STEVER, Associate Dean, School of Engineering, Massachusetts Institute of Technology, "Very High Speed Aerodynamics" (Second).

DEPARTMENT OF MILITARY ART AND ENGINEERING

MR. JOHN J. HOGAN, Consulting Engineer, Portland Cement Assn., "Modern Concrete Structures" (First).

DEPARTMENT OF MILITARY HYGIENE

LT. COL. EDWARD MARKS, MSC, Brooke Army Medical School, Fort Sam Houston, Tex., "Military Fundamentals: Nuclear Weapons Effects" (Second).

COL. ALBERT J. GLASS, MC, Office of the Surgeon General, DA, "Psychiatric Aspects of Human Behavior in the Nuclear Age" (Second).

COL. F. C. VORDER BRUEGGE, Deputy Commander, U.S. Army Medical R&D Command, "Medical Support in Future Operations" (First).

MAJ. GEN. J. L. BERNIER, Chief of Dental Service, DA, "The Army Dental Corps and Your Responsibilities" (First).

DEPARTMENT OF ORDNANCE

MR. JOSEPH F. SULLIVAN, Director, Watertown Arsenal, Watertown, Mass., "Current Development of High Strength-to-Weight Ratio Structural Materials" (First).

MR. RAYMOND BRACHMAN, Project Engineer FADAC, Frankford Arsenal, Philadelphia, Pa., "FADAC, First Tactical Digital Computer" (First).

CAPT. LAWRENCE S. LODEWICK, Land Locomotion Laboratories USA Ord-Tank Auto. Center, Detroit, Mich., "State of the Art and Current Application of Land Locomotion Principles" (First).

DR. ALEXANDER HAMMER, MR. ROBERT LEDOUX, MR. EDWIN JAKUBOWSKI, Springfield Armory, Springfield, Mass., "Analysis of a Modern Automatic Weapon Using the Analog Computer, High Speed Photography and Analytic Mathematics" (First).

MR. JOHN SLEZAK, Chairman of the Board, Kable Printing Co., Mount Morris, Ill., "Industry's Participation in Field of Ordnance as a Member of Ordnance-Industry Team" (Selected First Classmen).

REAR ADM. H. P. WEATHERWAX, Assistant Chief of Bureau of Naval Weapons, Department of the Navy, Washington, D.C., "Naval Ordnance Activities" (First).

DR. W. R. LUCAS, George Marshall Space Center, NASA, Huntsville, Ala. "Materials for Missile Applications" (First).

MAJ. GEN. W. T. HEFLEY, USAF, Commander, Air Materiel Area, "Air Force Armament Activities" (First).

LT. GEN. J. H. HINRICHS, Chief of Ordnance, DA, "Army Ordnance Activities" (First).

DEPARTMENT OF PHYSICS AND CHEMISTRY

MR. JOHN E. JENSEN, Brookhaven National Laboratory, N.Y., "Liquid Hydrogen Bubble Chambers" (First-Physical Chemistry).

DEPARTMENT OF SOCIAL SCIENCES

MR. WILLIAM C. SULLIVAN, Department of Justice, Washington, D.C., "Communism in the U.S." (Second).

PROF. JULES DAVIDS, Department of History, Georgetown University, "World War I, Neutrality and Intervention" (Selected Second Classmen).

PROF. LOUIS HARTZ, Department of Government, Harvard University, "The Enlightenment" (Selected Second Classmen).

DR. ROBERT V. ROOSA, Vice President, Federal Reserve Bank of New York, "Recent Federal Reserve Monetary Policy" (First).

PROF. CHARLES FRANKEL, Chairman of Department of Philosophy, Columbia University, "Liberalism" (Selected Second Classmen).

PROF. HANS KOHN, Department of History, City College of New York, "Beginnings of Modern Nationalism" (Second).

DR. LEO CHERNE, Executive Director, Research Institute of America, Inc., New York, N.Y., "Role of the U.S. in the World Economy" (First).

LT. GEN. D. W. TRAUB, The Comptroller, DA, "Realities of Budgeting" (First).

PROF. SIGMUND NEUMANN, Chairman, Department of Government, Wesleyan University, "The Future of Democracy in France and Germany" (Second).

MR. ROBERT AMORY, Deputy Director, CIA, "Role of the CIA in Policy Machinery" (Selected First Classmen).

DR. REINHOLD NIEBUHR, Union Theological Seminary, New York, "The Problem of Order, Power and Justice in the Western Democracy and the World Community" (First).

LT. GEN. E. G. WHEELER, Director of the Joint Staff, JCS, "Role of the Joint Chiefs of Staff" (Selected First Classmen).

PROF. HENRY GRAFF, Department of History, Columbia University, "U.S. Neutrality, 1919–1939" (Second).

PROF. ZBIGNIEW BRZEZINSKI, The Russian Institute, Columbia University, "Soviet View of a Changing World" (First).

DR. R. G. ALBION, Gardiner Professor of Oceanic History and Affairs, Harvard University, "Seapower in the 18th Century" (Third).

PROF. T. T. HAMMOND, Corcoran Department of History, University of Virginia, "Soviet Foreign Policy" (Selected Second Classmen).

MR. JOHN R. BLANDFORD, Counsel, House Armed Services Committee, House of Representatives, "Congress and the Formulation of Security Policy" (Selected First Classmen).

COL. R. E. DOUGHERTY, Office of the Director of Plans, USAF, "Strategic Deterrence" (Selected First Classmen).

DR. JOSEPH E. JOHNSON, President, Carnegie Endowment for International Peace, "The Future of the United Nations" (First).

PROF. HANS KOHN, Department of History, City College of New York, "Emergence of Modern Nationalism: 1848" (Third).

MAJ. R. G. GARD, JR., Science and Public Policy Seminar, Harvard University, "Arms Control" (Selected First Classmen).

GEN. ALFRED M. GRUENTHER (Ret.), President, The American Red Cross, "World Problems and Your Military Career" (First).

MR. EDWIN M. WRIGHT, Head of Department of Career Studies, Foreign Service Institute, Washington, D.C., "Dilemmas of the Middle East" (First).

DEPARTMENT OF TACTICS

MAJ. GENS. J. W. BOWEN, F. M. WARREN, and D. W. McGOWAN, Department of the Army, "National Guard and Army Reserves" (First).

COL. C. L. McBRIDE and LT. COL. R. K. STULL, Office of ACS Intelligence, DA, "Soviet Army" (Third).

COL. H. W. PRICE, Office of DCS Operations, DA, "Strategic Mobility of Striking Forces" (Third).

REPRESENTATIVES OF ARMY COOPERATIVE FIRE INSURANCE COMPANY, ARMY MUTUAL AID, AND UNITED SERVICES AUTOMOBILE ASSOCIATION, "Insurance" (First).

COL. L. E. FELLENZ, Assistant Chief, Chemical Office for Planning and Doctrine, DA, "Chemical and Biological Warfare" (First).

MAJ. GEN. G. E. MARTIN, Deputy Chief of Staff for Personnel, DA, "Army Career Patterns" (First).

COL. HALFORD R. GREENLEE, JR., and LT. COL. K. M. LEMLEY, Office of ACS Intelligence, DA, "The Current State of Non-Communist Armed Forces" (First).

LT. H. C. LYON, 101st Airborne Div., Fort Campbell, Ky.; LT. P. M. BONS, 82d Airborne Div., Fort Bragg, N.C., "Airborne, Ranger Training" (First).

MAJ. GEN. A. R. FITCH, Deputy ACS Intelligence, DA, "Intelligence" (First).

LT. COL. R. K. STULL, Office of ACS Intelligence, DA, "Soviet Military Trends" (First).

LT. COL. F. C. STANFORD, Missile Division, Combat Developments, DCS Operations, DA, "Material Development Program (Weapons and Intelligence)" (First).

MR. BUCK and MR. TEWKSBARY, U.S. Continental Army, National Safety Council, "Traffic Safety" (First, Second, Third).

LT. COL. F. A. GERIG, Combat Development Branch, Training and Doctrine, DCS Logistics, DA, "Material Development Program, Logistics" (First).

MAJ. C. R. MEYER, Doctrine and Concept Combat Division, DCS Operations, DA, "Organizational Trends" (First).

COL. CHARLES W. DAVIS, Mutual Security Division, DCS Logistics, DA, "Military Assistance Programs" (First).

ASSISTANT COMMANDANTS, U.S. Army Service Schools and Branch Representatives, Officers Assignment Division, DA, "Orientation, Combat Branches" (First).

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MR. J. J. McCARTHY, General Electric Corp., "Human Relations in Management" (First).

BRIG. GEN. A. J. MAROUN, Office of DCS Personnel, DA, "Management of Personnel" (First).

LT. GEN. S. T. WILLIAMS (Ret.), "Personal Reflections on Leadership" (First).

LT. GEN. A. G. TRUDEAU, Chief, Research and Development, DA, "Future Dimensions of Leadership" (First).

EDUCATIONAL ACTIVITIES

The Military Academy offers varied opportunities for cadets who are interested in exploring fields of academic study on a broader or more intensive basis than is provided in the formal academic curriculum. Seminars, special guest lectures, discussion groups, student conferences, and intercollegiate debates are undertaken on cadet initiative and carried out primarily with cadet effort. The largest and most active organization in this field is the Debate Council and Forum whose members engage in intercollegiate debates and discussions in all parts of the United States during the academic year. This organization also sponsors voluntary seminars on such topics as World Tension Areas, Personal Finance, Philosophy, and U.S. Security Problems, as well as other subjects in which cadets may express an interest.

STUDENT CONFERENCE ON UNITED STATES AFFAIRS

Annually since 1949, West Point, with the assistance of private financial aid, has sponsored a Student Conference on United States Affairs, known as SCUSA. Today outstanding students from about 90 U.S. and Canadian colleges and universities meet with approximately 30 senior individuals from college faculties, business, and government in small seminars to discuss major aspects of United States National Security Policy and to formulate policy recommendations. The Cadet Debate Council and Forum administers these conferences and acts as host. In addition to the cadets on the administrative staff and those actually participating in conference discussions, the first and second classes of the Military Academy attend the opening conference speech.

The purposes of these conferences are (1) to produce an informative examination and discussion of United States National Security Policy, (2) to provide an outstanding representation of college students with an appreciation of the complexities of government policy formulation, and (3) to broaden students' contacts with their contemporaries in an academic endeavor.

The principal speakers at the tenth through twelfth conferences are given below:

SCUSA X: 3–6 December 1958

THE HONORABLE CHRISTIAN A. HERTER
Under Secretary of State
Former Governor of Massachusetts

DR. HENRY M. WRISTON
President of the Council on Foreign Relations
President of the American Assembly
Former President of Brown University

SCUSA XI: 2–5 December 1959

MR. WILLIAM H. DRAPER, JR.
Former Ambassador, Under Secretary of the Army, and Chairman of The President's Committee to Study the United States Military Assistance Program

MR. AVERELL HARRIMAN
Former Ambassador, Secretary of Commerce, and Governor of New York

SCUSA XII: 30 November–3 December 1960

THE HONORABLE NELSON A. ROCKEFELLER
Governor of the State of New York

THE HONORABLE DEAN RUSK
Former President of the Rockefeller Foundation
Secretary of State

THE NATIONAL DEBATE TOURNAMENT

Each spring since 1947, the Academy has been host to the annual National Debate Tournament, a culmination of national collegiate forensic activities. During the academic year, over 600 colleges and universities compete in eight district tournaments throughout the nation for the privilege of receiving one of the 36 invitations to the tournament.

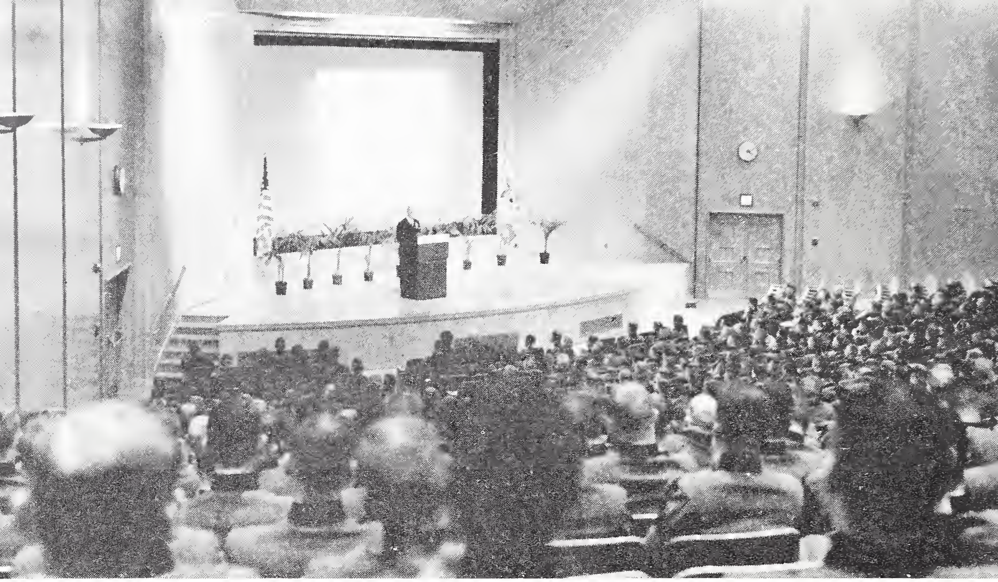
SCUSA Conference

The Larmon Trophy, presented by Mr. Sigurd S. Larmon of Young & Rubicam, Inc., New York City, is awarded annually to the winning team. This trophy has become symbolic of the national intercollegiate championship in debating. Debaters from more than 150 colleges have participated in the tournament which is administered by the Debate Council and Forum. During its 14-year history, teams representing the Military Academy won the tournament in 1956 and placed second in 1957.

WEST POINT DEBATE COUNCIL

The Debate Council, an activity within the Debate Council and Forum, sponsors an extensive program of forensic activities affording its members the opportunity of acquiring skills in public speaking and in the use of logic, and of using and perfecting these skills in tournament debating in competition with colleges and universities throughout the country. The Debate Council program for a typical year includes: intrasquad practice debating, varsity and novice intercollegiate competition, high school audience debating, a fall and spring Fourth Class (freshman) tournament, an intramural tournament (each cadet company sponsors a team), and an extemporaneous speech contest.

Of particular interest are the varsity intercollegiate and high



A Guest Speaker in Thayer Hall.

school audience debate programs. USMA varsity teams participate in the leading college debate tournaments (40 in 1960–61, involving over 400 debates with 200 colleges and universities). Through the caliber of its performance in major tournaments each year, West Point has achieved recognition as one of the leading schools in intercollegiate debating. In order to encourage interest in debating in high schools and to gain experience in speaking before large audiences, cadets compete each year against teams from such universities as Pittsburgh, Syracuse, Northwestern and Oklahoma before high school audiences. West Point teams debated before 5,000 high school students in 1960–61.

WEST POINT CADET FORUM

This cadet organization, an activity of the Debate Council and Forum, schedules each year as one of its voluntary educational activities, a series of lectures by distinguished speakers. The 1960–61 series offered the following speakers:

GEN. ALFRED M. GRUENTHER (Ret.), President, The American Red Cross, "World Problems and Your Military Career."

MR. CHARLES E. SALTZMAN (Maj. Gen. USAR), New York, N.Y., "Investment Philosophy for the Junior Officer."

The forum selects cadets for participation in student conferences at such institutions as University of Alabama, McGill University, Michigan State University, Air Force Academy, and Texas A&M.

CULTURAL VISITS

To encourage cadets to broaden their cultural interests and to afford them the opportunity to become familiar with and enjoy some of the many cultural facilities of New York City, frequent trips are organized for groups of upperclass cadets to attend plays, concerts, opera, or ballet performances on Saturday evenings, as well as to visit museums on Sunday afternoons.

PRIZES AND DISTINCTIONS

DISTINGUISHED CADETS

In June of every year those cadets on the general merit roll of each class and on the graduating merit roll whose records show they have met the requirements set by the Academic Board are classed as "Distinguished." When the list has been determined, the Superintendent sends it to the Department of the Army for publication in the Army Register.

Distinguished cadets wear a five-pointed star, three-quarters of an inch in diameter, on each side of the collar of the dress coat and the full dress coat. The star is worn for one year by cadets who were distinguished in the work of the Second, Third, or Fourth Class year.

UNIT ACHIEVEMENT AWARDS

SUPERINTENDENT'S AWARD (1958). Two plaques awarded to the cadet company in each regiment which is judged to be the most outstanding in all areas of cadet endeavor. **Awarded in 1960 to Companies B1 and B2.**

DEAN'S AWARD (1956). Two plaques awarded to the academically outstanding company in each regiment. **Awarded in September 1960 to Companies M1 and B2.**

ARMY ATHLETIC ASSOCIATION AWARD (1958). Two plaques awarded to the cadet company in each regiment which has made the greatest contribution to the Corps Squad program through participation. **Awarded in 1960 to Companies A1 and G2.**

BANKERS ASSOCIATION OF NEW YORK AWARD (1924). Two plaques awarded to the cadet company in each regiment ranking first in intramural athletics. A silver cup, formerly awarded to the cadet company ranking first in intramural athletics, is also inscribed with the designation of the winning companies. **Awarded in 1960 to Companies E1 and D2.**

REGIMENTAL COMMANDER'S DRILL AWARD. Two plaques awarded three times each year to coincide with the three drill seasons to the cadet company in each regiment that is the most outstanding in drills and ceremonies. **Awarded in Spring 1960 to Companies M1 and A2, in Fall 1960 to Companies G1 and A2.**

GEORGE ALEXANDER CAMPBELL II MEMORIAL TROPHY (1949). Established by the Class of 1951 in memory of their classmate, Cadet Campbell, who died during yearling summer camp, this silver cup is awarded to the company winning the brigade championship in intramural basketball. **Awarded in 1960 to Company E1.**

JARED WILLIAM MORROW MEMORIAL TROPHY (1951). Established by Capt. Gerald D. Hall, USMA 1944, in memory of Lt. Jared William Morrow, USMA 1945, who died in battle in Korea in 1950, this silver cup is awarded to the company winning the brigade championship in intramural track. **Awarded in 1960 to Companies A1 and K2 (tie).**

PALMER E. PIERCE FOOTBALL TROPHY (1943). This silver cup, originally awarded to Gen. Palmer E. Pierce, USMA 1891, by the National Collegiate Athletic Association in recognition of his services to the Association, and bequeathed by him to the Army Athletic Association, is awarded to the company winning the brigade championship in intramural football. **Awarded in 1960 to Company C1.**

ARTHUR H. TRUXES MEMORIAL TROPHY (1951). Established by Capt. Gerald D. Hall, USMA 1944, in memory of Capt. Arthur H. Truxes, Jr., USMA 1945, who died in battle in Korea in 1950, this silver cup is awarded to the company winning the brigade championship in intramural cross country. **Awarded in 1960 to Company B2.**

INTRAMURAL ATHLETIC AWARDS. Plaques are awarded to the companies winning the brigade championships in each intramural sport; smaller plaques are awarded to brigade runners-up.

INDIVIDUAL GENERAL AWARDS

ARTHUR M. APMANN PRIZE. A set of books presented by Col. Arthur M. Apmann in memory of his son, the late Lt. Arthur M. Apmann, Jr., USMA 1950, to the Editor of the Howitzer. **Awarded in 1960 to Lee Allen.**

ARMY TIMES PRIZE (1956). A wrist watch presented in the name of the Army Times to the Editor of "The Pointer." **Awarded in 1960 to Kenneth R. Kirchner.**

FRANCIS VINTON GREENE MEMORIAL AWARD (1929). A set of books given in memory of the late Maj. Gen. Francis Vinton Greene, USMA 1870, to the cadet standing number one in the general order of merit at graduation. **Awarded in 1960 to Charles P. Otstott.**

MILITARY ORDER OF WORLD WARS PRIZE (1942). A wrist watch presented to the graduating cadet who has made the greatest improvement during his course. **Presented in 1960 to Fred N. Halley.**

INDIVIDUAL MILITARY AWARDS

CHARLES G. DAWES PRIZE (1929). A sword, called the Pershing Sword, given in the name of the late Brig. Gen. Charles G. Dawes to the First Captain, to commemorate General Pershing's being First Captain of the Corps of Cadets in 1886. **Awarded in 1960 to Charles P. Otstott.**

CLASS OF 1927 AWARD (1957). A wrist watch given by the Class of 1927 to the outstanding Cadet Company Commander. **Awarded in 1960 to Edwin A. Deagle, Jr.**

ASSOCIATION OF GRADUATES AWARDS (1942). A $100 series E bond presented by the Association of Graduates to the cadet in the Second Class and $50 series E bonds to the cadets in the Third and Fourth Classes outstanding in military efficiency and leadership. **Awarded in 1960 to John L. Kammerdiener, James R. Ellis, and Lyndol L. Cook.**

MILITARY EFFICIENCY PRIZE (1910). A silver cup presented by the Sons of the Revolution in the State of New York to the cadet with the highest rating in military efficiency. **Awarded in 1960 to Charles P. Otstott.**

ARMY AND NAVY UNION PRIZE IN TACTICS (1948). A wrist watch given by the Army and Navy Union to the cadet with the highest rating in tactics. **Awarded in 1960 to Thomas H. Huber.**

ARMY AND NAVY UNION PRIZE (1952). A pistol given by the Army and Navy Union (Department of New York) to the Cadet Officer commanding the First Regiment. **Awarded in 1960 to Thomas L. Bullock.**

ARMY AND NAVY UNION AUXILIARY PRIZE (1952). A pistol given by the Ladies Auxiliary of the Army and Navy Union (Department of New York) to the Cadet Officer commanding the Second Regiment. **Awarded in 1960 to Charles M. Titus.**

INDIVIDUAL ACADEMIC AWARDS

CHEMISTRY (1935). A life membership in the National Geographic Society given by the National Organization of the American Legion to the graduating cadet with the highest standing in chemistry. **Awarded in 1960 to Charles P. Otstott.**

DEBATING (1947). Two wrist watches given by the Consul General of Switzerland in the United States for excellence in intercollegiate debating. **Awarded in 1960 to Charles B. Fegan and Paul L. Miles, Jr.**

ELECTRICAL ENGINEERING (1948). A transistor radio given by the Armed Forces Communications and Electronics Association to the graduating cadet with the highest standing in electrical engineering. **Awarded in 1960 to Charles P. Otstott.**

ENGLISH (1934). A set of books given by the National Society, Colonial Daughters of the Seventeenth Century, to the graduating cadet with the highest standing in English. **Awarded in 1960 to Gordon S. Livingston.**

FOREIGN LANGUAGES (1936). A wrist watch given by the Steuben Society of America to the graduating cadet with the highest standing in foreign languages. **Awarded in 1960 to Raymond S. Andrews, Jr.**

LAW (1941). A set of books given by the American Bar Association to the graduating cadet with the highest standing in law. **Awarded in 1960 to Robert E. Montgomery.**

MATHEMATICS (1931). A saber, known as The Robert E. Lee Saber, given by the United Daughters of the Confederacy to the graduating cadet with the highest standing in mathematics. **Awarded in 1960 to Charles P. Otstott.**

MECHANICS OF FLUIDS (1930). A portable typewriter given by the National Society, Daughters of the American Revolution, to the graduating cadet with the highest standing in mechanics of fluids. **Awarded in 1960 to Charles P. Otstott.**

MECHANICS OF SOLIDS (1939). A pair of binoculars given by the Ladies Auxiliary of the Veterans of Foreign Wars to the graduating cadet with the highest standing in mechanics of solids. **Awarded in 1960 to Charles P. Otstott.**

MILITARY ENGINEERING AND MILITARY HISTORY (1942). A set of books given by Mrs. William A. Mitchell in memory of her husband, Brig. Gen. William A. Mitchell, USMA 1902, to the graduating cadet with the highest standing in military engineering and military history. **Awarded in 1960 to James J. Stewart.**

MILITARY HYGIENE (1942). A wrist watch given by the National Society, Daughters of Founders and Patriots of America, to the graduating cadet with the highest standing in military hygiene. **Awarded in 1960 to Harry C. Calvin.**

MILITARY PHYCHOLOGY AND LEADERSHIP (1951). A silver tray given in the name of Dwight D. Eisenhower, USMA 1915, to the graduating cadet with the highest standing in military psychology and leadership. **Awarded in 1960 to Paul L. Miles, Jr.**

MILITARY TOPOGRAPHY (1958). A shotgun given by the Daughters of the Union Veterans of the Civil War to the graduating cadet with the highest standing in military topography. **Awarded in 1960 to Charles P. Otstott.**

MILITARY TOPOGRAPHY AND GRAPHICS (1932). A wrist watch given by the Women's Relief Corps, Auxiliary to the Grand Army of the Republic, to the graduating cadet with the highest standing in military topography and graphics. **Awarded in 1960 to Charles P. Otstott.**

NUCLEAR PHYSICS (1957). A silver tray given in the name of Lt. Gen. Leslie R. Groves, USMA 1918, to the graduating cadet with the highest standing in nuclear physics. **Awarded in 1960 to Edward Strasbourger.**

ORDNANCE ENGINEERING (1956). A rifle, known as the Col. James L. Walsh Memorial Award, given by the American Ordnance Association to the graduating cadet with the highest standing in ordnance engineering. **Awarded in 1960 to James J. Stewart.**

PHYSICS (1937). A camera given by the Veterans of Foreign Wars of the United States to the graduating cadet with the highest standing in physics. **Awarded in 1960 to Charles P. Otstott.**

SOCIAL SCIENCES, FIRST CLASS (1929). A wrist watch given by the National Commandery, Military Order of Foreign Wars, to the graduating cadet with the highest standing in the First Class course in social sciences. **Awarded in 1960 to James J. Stewart.**

SOCIAL SCIENCES, SECOND CLASS (1954). A silver bowl given by the Class of 1930 in the name of the late Honorable Edgar

Bromberger, former Chief City Magistrate of the City of New York, to the graduating cadet with the highest standing in the Second Class course in social sciences. **Awarded in 1960 to John A. LeFebvre.**

INDIVIDUAL ATHLETIC AWARDS

AAA TROPHY (1904). A silver plate with the Academy seal embossed at four places on the border is given by the Army Athletic Association to the graduating cadet who has rendered the most valuable service to athletics. **Awarded in 1960 to Robert Anderson.**

BASEBALL (1952). A silver plate given by Mrs. John W. Coffey in memory of Brig. Gen. John W. Coffey, USMA August 1917, to the outgoing baseball captain. **Awarded in 1960 to Ned N. Loscuito.**

BASKETBALL (1949). A silver plate with the Academy seal embossed at four places on the border, purchased with the interest from a fund of $2,000 presented by Mr. George Simpson in memory of his son, Capt. Eber Simpson, USMA 1943, is given to the outgoing basketball captain. **Awarded in 1960 to George F. Kaiser.**

BOXING (1949). A silver plate with the Academy seal embossed at four places on the border, purchased with the interest from a fund of $2,000 established in the memory of Col. David Marcus, USMA 1924, is given to the outstanding boxer in the graduating class. **Awarded in 1960 to Jennings H. Mease.**

FOOTBALL (1909). A silver plate with the Academy seal embossed at four places on the border, purchased under the terms of a legacy presented by Mrs. Wright Prescott Edgerton in memory of her husband, Col. Wright Prescott Edgerton, USMA 1874, is given to the outgoing football captain. **Awarded in 1960 to William S. Carpenter, Jr.**

FOOTBALL (1939). A silver plate with the Academy seal embossed at four places on the border, purchased with the interest from a fund of $2,000 presented by Col. Thruston Hughes, USMA 1909, is given to the most valuable player on the Army football team. **Awarded in 1960 to Joe Caldwell.**

GYMNASTICS (1902). Two silver plates with the Academy seal embossed at four places on the border and purchased under the terms of the will of Mrs. Anna A. Foster in memory of her son, Pierce Currier Foster, USMA 1899, are given to the cadets standing first and second in gymnastics. **Awarded in 1960 to J. Aaronsohn and Ralph W. Garens.**

HOCKEY (1955). A silver plate donated by members of the family, former and present officers of the Department of Social Sciences, USMA, and a group of former friends, in memory of Maj. Henry S. Beukema, USMA 1944, is given to the outstanding hockey player. **Awarded in 1960 to Edward M. Crowley.**

INTRAMURAL. Winners of brigade individual sports contests such as track and cross country are awarded silver medallions; runners-up receive bronze medallions.

LACROSSE (1938). A silver plate with the Academy seal embossed at four places on the border, purchased with the interest from a fund presented by Mr. and Mrs. Walter M. Fickes in memory of their son, William P. Fickes, USMA 1936, is given to the outgoing lacrosse captain. **Awarded in 1960 to Robert S. Miser.**

PISTOL (1955). A pistol given by John M. McNally in memory of Gen. George S. Patton, Jr., USMA 1909, to the outgoing captain of the pistol team. **Awarded in 1960 to John B. Hubard.**

PHYSICAL EDUCATION (1954). A wrist watch given by the Walter B. Tunick Estate as the 306th Infantry prize to the graduating cadet achieving excellence in physical education over the four-year course. **Awarded in 1960 to Herman T. Eubanks, Jr.**

SWIMMING (1949). A silver plate with the Academy seal embossed at four places on the border, purchased with the interest from a fund of $2,000 contributed by the Class of 1923, is given for excellence in swimming. **Awarded in 1960 to Thomas L. Bullock.**

TUMBLING (1957). A silver plate given by Mrs. William Lewis Bell, Jr., in memory of Maj. Gen. William Lewis Bell, Jr., USMA 1929, to the outstanding tumbler in the Corps. **Awarded in 1960 to Richard Seaward.**

RHODES SCHOLARSHIPS

Cadets of the Military Academy first entered the Rhodes scholarships competition in 1923, and with the exception of the war years they have since competed annually. From 1923 to 1961, forty-five scholarships were awarded to Academy graduates, who attend Oxford as Army or Air Force officers on active duty. Ten former cadets are now at Oxford.

Elections for Rhodes scholarships are held every year. Scholars-elect enter the University of Oxford in October of the year following their election. The scholarships are for a minimum period of two years' study; a third year may be awarded if the Rhodes scholar presents a plan of study acceptable to his service and to the Rhodes trustees.

Cadets desiring to compete for a scholarship are carefully screened by the Academic Board, assisted by the Rhodes Scholarship Committee. Appointments are made by the District Committees, subject to the final approval of the Rhodes trustees. A Committee of Selection in each State recommends two candidates every year to the District Committee. Candidates may apply either in the State in which they live or in the State in which they have received at least two years of their college education.

The basis of selection by the Committee is that section of Cecil Rhodes' Will in which are mentioned the four groups of qualities which are desired in the scholars, the first two of which are considered the most important: (1) Literary and scholastic ability and attainments; (2) qualities of manhood, truth, courage, devotion to duty, sympathy for and protection of the weak, kindliness, unselfishness, and fellowship; (3) exhibition during school days of moral force of character and of instincts to lead and to take an interest in his schoolmates; (4) fondness for and success in manly outdoor sports such as cricket, football, and the like.

The selection is not made, however, on any system of averagin up a man's qualifications under all these heads. Committees ar interested instead in men who show promise of outstandin achievements in later life in their particular callings. For this distinction of intellect and character are the most importan requirements.

INFORMATION

HISTORY OF WEST POINT

The United States Military Academy was established officially on 16 March 1802 at West Point, a key Hudson River military fortress during the Revolution, and was opened on 4 July 1802.

Compelling reasons made the formation of an American military academy at that time both logical and necessary: regular military instruction, appropriate in a well-conducted military organization, was lacking in the Army; the dearth of trained officers in the Revolution proved the need for military technicians in the event of a renewal of war; and leading statemen felt that a military academy would serve to strengthen the Army. Furthermore, the established colleges with their liberal arts curriculum were not providing the type of education needed by Army officers. For the duties many officers were called upon to perform, a knowledge of the mathematical sciences, as well as practical training, joined together with the personal qualities of integrity and leadership, was a necessary prerequisite. The conduct of war had become a recognized "profession."

The experience of the Revolutionary War, during which America had to rely in large part on foreign drillmasters, artillerists, and trained engineers, made the military and political leaders of the day energetic backers of a military academy. The earliest proposal was in 1776 by Col. Henry Knox who recommended "An Academy established on a liberal plan . . . where the whole theory and practice of fortification and gunnery should be taught." The papers of Gen. Benjamin Lincoln, Gen. Jedediah Huntington, Secretary of War Timothy Pickering, John Adams, Alexander Hamilton, and George Washington mention time and again the need for an academy. In his annual messages to Congress, Washington always included a plea that the Congress provide facilities for the study of military art. In 1797 in his eighth annual message, for example, he said:

> The institution of a military academy is also recommended by cogent reasons. However pacific the general policy of a nation may be, it ought never to be without a stock of military knowledge for emergencies. . . . [The art of war] demands much previous study, and . . . [knowledge of that art] . . . in its most improved and perfect state is always of great moment to the security of a nation. . . . For this purpose an academy where a regular course of instruction is given is an . . . expedient which different nations have successfully employed.

The military academies that "different nations" had "successfully employed" and that Washington likely had in mind were England's Royal Military Academy at Woolwich, founded in 1741, and France's Ecole Polytechnique, founded in 1794. The Royal Military College at Sandhurst in England was founded the same year as our own Academy, 1802. And Washington quite obviously realized that complete independence for America called not only for the severance of political ties from England and the formation of an independent political state, but also for independence in every facet of national life and culture: in law, religion, agriculture, shipbuilding, trading, manufacturing, and military science. How deeply he continued to feel about the need for an Academy appears in a letter written 2 days before his death and addressed to Alexander Hamilton:

> The establishment of an Institution of this kind, upon a respectable and extensive basis, has ever been considered by me as an object of primary importance to this country; and while I was in the Chair of Government, I omitted no opportunity of recommending it, in my public speeches and other ways, to the attention of the Legislature.

So it was that Congress, by its Act of 16 March 1802, authorized a Corps of Engineers, set its strength at 5 officers and 10 cadets, and provided that it be stationed at West Point in the State of New York, and should constitute a Military Academy.

The garrison site of West Point, consisting of 1,795 acres purchased from Stephen Moore in 1790, had been occupied by the Army since 1778. Hence barracks and other buildings, while inadequate, were available for housing and instruction, and Maj. Jonathan Williams, grandnephew of Benjamin Franklin and Chief of the Corps of Engineers, who had been appointed as the first Superintendent, was able to open the Academy on 4 July 1802 with 10 cadets present.

The initial purpose of the Academy was to train military technicians for all branches of the military service, to encourage the study of military art nationally and thus raise the level of training of the militia, and to encourage the practical study of every science. This last, it should be noted, at a time that many other American academic institutions looked at the sciences with suspicion and hostility. How well the Academy succeeded in its purpose for the first ten years of its existence was summarized by the most authoritative historian of that period of American life, Henry Adams. In his History of the United States (9 vols., 1889–91), covering the Jefferson and Madison administrations, Adams offers the tribute that American scientific engineering ". . . owed its efficiency and almost its existence to the military school at West Point established in 1802."

Early in the year 1812 the growing threat of war with England impelled Congress to pass the act of 29 April 1812 by which the strength of the Corps of Cadets was increased to 250, the academic staff enlarged, and the cadets placed under the discipline of published regulations. A chaplain was authorized who in addition to his religious duties was "to officiate as Professor of Geography, Ethics, and History." The act required also that the cadets be taught "all the duties of a private, a noncommissioned officer, and an officer." This requirement, says Emory Upton in The Military Policy of the United States (1904), was the "key to the character for efficiency and discipline which the graduates have since maintained."

The record of the War of 1812 shows that the Academy graduates served their country well. A quarter of the more than 100—all under 30 years of age—who saw action were killed or wounded; and not one of the fortifications constructed under their direction was captured. Henry Adams was appreciative of their technical skill. "During the critical campaign of 1812," he wrote, "the West Point Engineers doubled the capacity of the little American army for resistance."

The experience of the War of 1812, that gave the Nation new self-assurance, affected the Academy's educational aims in the period of peace which followed. No longer was the enemy an immediate threat on our borders; American nationality had been firmly established. National interest called now for canals, roads, railroads, and the exploitation of the soil and its mineral wealth. The accurate mapping of rivers, the deepening of their channels, the constructing of lighthouses and beacon lights: these were needed to make communication easier. And the preliminary work of prospecting and surveying had to be done.

That the Academy graduates of this era were men who through force of character and training could assume leadership in the performance of these tasks was due largely to the genius of Col. Sylvanus Thayer, Superintendent from 1817 to 1833. The "Father of the Military Academy" had one ideal before him: to produce men who would be trained and worthy leaders. He demanded of the cadets excellence of character and excellence of knowledge, the two integrating qualities of such leadership. But he knew that to achieve his ideal he must master and guide the day-to-day routine of the Academy, and so it was that he let no detail of character training or discipline, of curriculum content, of textbooks, of teaching methods, of extracurricular activities, of physical plant escape his attention.

Thayer grasped at once the need of the country for engineers, and therefore made courses in civil engineering the core of the curriculum. Under his direction, instruction in that subject eventually included the properties, preparations, and use of materials for construction; the art of construction generally, including decorative architecture; the manner of laying and constructing roads; the construction of bridges; the principles regulating the removal of obstructions impeding river navigation; the survey, location, and construction of canals and railroads; and the formation of artificial and the improvement of natural harbors.

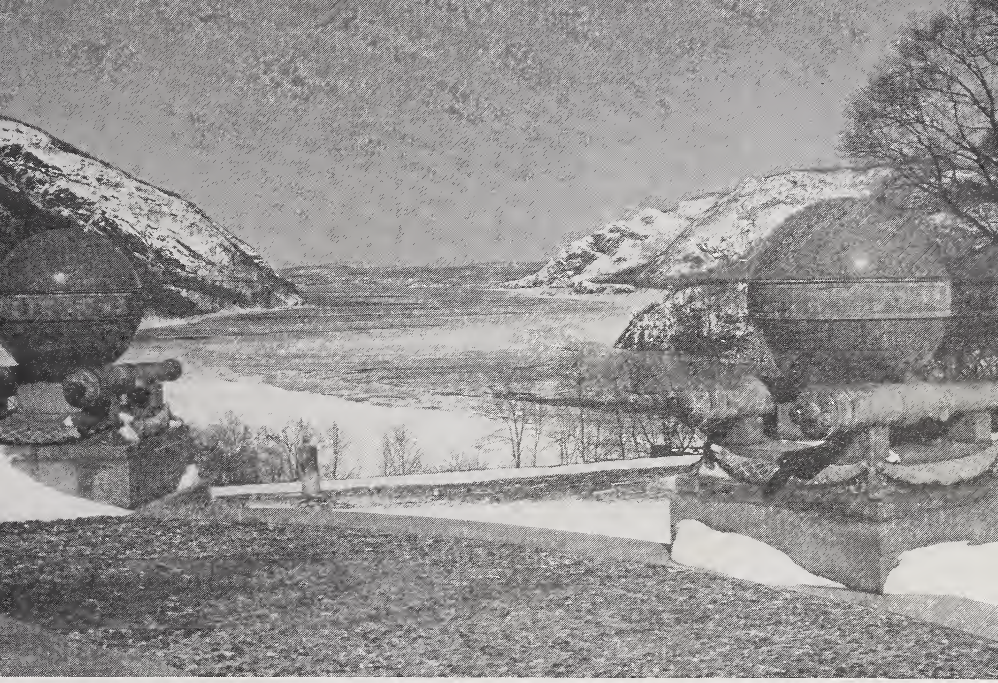
A list of the Academy's achievements in the field of civil engineering that can be attributed to the farseeing genius of Thayer would include trigonometrical and topographical surveying; methods of triangulation; magnetic declination; and the systems used in locating, surveying, and dividing the public lands of the United States. Francis Wayland Brown, the scholarly president of Brown University from 1827 to 1855, said in 1850 in a report to the Corporation of Brown University that West Point graduates

The Hudson—North from Trophy Point

did "more to build up the system of internal improvement in the United States than [the graduates of] all other colleges combined."

To help him by outside criticism of his work, Thayer had the aid of a Board of Visitors. A regulation for the Government of the Military Academy, approved by Secretary of War William H. Crawford on 1 July 1815, provided for the appointment of such a Board to consist of five "competent gentlemen," with the Superintendent as President, who should attend at each of the annual and semiannual examinations and report thereon to the Secretary. This excellent custom of having a Board of Visitors has lasted to the present day. From the beginning their criticism was pertinent and helpful; nor is this surprising when the long list of those who have been members is scanned, for thereon the names of men like Edward Everett, George Bancroft, George Ticknor, Horace Mann, and Daniel Coit Gilman appear. Thayer knew the value of the intelligent lay point of view and welcomed the Board's comments on his curricular shift to civil engineering, his innovations in educational method, and his system in general.

His innovations in educational methods insured that the cadets not only learned but retained their subjects. Basically, he demanded that the cadets develop habits of mental discipline and



Trophy Point in the Winter

maintain standards of scholarship that have grown in importance the more they have been tested through the years. He emphasized habits of regular study, he laid down the rule that every cadet had to pass every course—any deficiency had to be made up within a specified time or the cadet would be dropped. To carry out these rigorous standards he limited the classroom sections to from 10 to 14 members; he rated these sections in order of merit and directed that cadets be transferred from one to the other as their averages rose or fell.

These methods and standards of Thayer's system are still used at the Academy, and Thayer's insistence on leadership integrated by excellence of character and excellence of knowledge has been the cornerstone of the Academy's training since his day. Emerson, visiting West Point in 1863, spoke of the "air of probity, of veracity, and of loyalty" the cadets had; and when in 1898 the present coat of arms was adopted, the motto thereon of "Duty, Honor, Country" was but a later generation's attempt to put Thayer's ideal into words.

To the casual student it might seem that until about 1860 West Point was filling the almost dual roles of national military academy and of national school of civil engineering. But despite the curricular emphasis on civil engineering and the renown of her graduates in that field, the Academy never forgot her deepest and most abiding obligation to the Nation: to send forth graduates trained in the art and science of war. That the obligation was fulfilled is attested for these early years by the records of the Mexican and Civil Wars. The record of the Mexican War is told best in the words of Gen. Winfield Scott:

> I give it as my fixed opincn, that but for our graduated cadets, the war between the United States and Mexico might, and probably would, have lasted some four or five years, with, in its first half, more defeats than victories falling to our share; whereas, in less than two campaigns we conquered a great country and a peace, without the loss of a single battle or skirmish.

The record of the Civil War shows that the Confederacy used graduates whenever and wherever possible; the Union, in the beginning, used "political" generals. Defeat after defeat proved the need for professionally trained officers and, in the last year of the war, all senior commanders of the Union armies were Academy graduates. Grant, Lee, Sheridan, Jackson, to name but a few on both sides, were all from West Point.

After the Civil War, changing conditions necessitated a shift in the Academy's curriculum away from the emphasis on civil engineering. New technical and engineering schools, supplementing those that had been founded in the second quarter of the nineteenth century, made it possible for West Point to drop its strong emphasis on engineering subjects. But even had these new schools not come into being, the Academy would have found it impossible to keep on producing both adequately trained Army officers and adequately trained engineers. The tremendous expansion of the body of scientific knowledge during these years—the last half of the nineteenth century—was enforcing specialization in all technical fields. And since the science of war likewise expanded greatly it became obvious that the Army officer would need specialization in his particular branch of service.

The Academy met these changed conditions by severing its direct relationship with the Corps of Engineers; from 1866 on it was no longer mandatory that the Superintendent be a member of that Corps. To take care of officer-specialization demand, several

Army postgraduate schools were set up, and West Point gradually came to be looked on as only the initial step in the Army officer's education. As the Academy approached its centennial, the military objective of the curriculum came to be the giving of general instruction in the elements of each military branch.

After its centennial, in 1902, the Academy underwent a thoroughgoing structural renovation and became known as the New West Point. Coincident with this reconstruction, Gen. Albert L. Mills, the Superintendent, had the entire curriculum, military and academic, reassessed. As a result, military instruction was transformed from a series of mechanical drills to practical training in minor tactics and field work. Complete correlation was developed between instruction and actual field conditions. One of Mills' special hobbies was English; he believed that the Army officer should be able to express himself clearly in speech and writing. To that end, he strengthened greatly the course in English. A gradual liberalization of the curriculum went on until the outbreak of World War I.

Eisenhower Receives the Thayer Award

WEST POINT
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USA

World War I tested and proved, as never before, the soundness of the Academy's curriculum and training. Although in order to meet the sudden and great demand for trained officers the course was shortened and a number of classes graduated early, the qualities and abilities of the graduates remained high.

After the close of the war the Academy's further development was placed in the hands of Gen. Douglas MacArthur, who became Superintendent on 12 June 1919. General MacArthur's primary concern was an adaptation of the curriculum in terms of the recent war. It was known, for instance, that the concept of total war, new in military history, required cadets to have a knowledge of national production, transportation, and social problems; that something of the new developments in weapons and tactics had to be incorporated into cadet instruction; and that shortcomings in the officers' physical development, seen clearly in the stress of battle, made a longer and more vigorous physical training program necessary. But at the same time it was realized that the tremendous advances in the art and science of war, made under the pressure of actual conflict, presaged further development of Army postgraduate schools, and hence a growing emphasis upon a more broadly conceived basic curriculum at West Point.

The part of the curriculum General MacArthur changed with the greatest vigor was that relating to physical education. He believed firmly that physical fitness was a basic requirement of an officer; and he planned a strenuous program of compulsory gymnastic instruction complemented by an intramural program of 14 sports in which every cadet had to take part. The wisdom of his foresight has been reflected ever since in the excellent physical condition of all cadets at all times.

Soon after General MacArthur's incumbency the policy of a liberal as well as a technical education got renewed emphasis by the introduction of a course in economics and government under the professor of English and History. In 1926 the Department of English and History was reorganized into the Department of Economics, Government, and History; and a separate Department of English established. In succeeding years curricular reforms took place in modern languages, natural philosophy, and mathematics.

All phases of training were greatly intensified during the rearmament years, 1939–41; and the part played by its graduates in

World War II seemed to justify the teaching and the courses at the Academy. Eisenhower, MacArthur, Bradley, Patton, Spaatz, Arnold, Collins, Clark, McNair, Devers, Wainwright, McNarney, Stilwell, Eichelberger, Vandenberg, Simpson: the list of West Point graduates who led our armies is a long and honored one. But much was learned from World War II; there were revised concepts of what professional military education should mean.

One recent change in curricular emphasis may be found in the Program of Studies in National Security. The general object of this program is the orientation of all courses, both military and academic, to the problem of national security today; the more pertinent courses have been co-ordinated and their direction and emphasis brought into common focus. At the present time the social sciences-humanities courses comprise about 40 percent of the curriculum; the mathematics-science-engineering courses about 60 percent.

Major attention is devoted to keeping the courses in phase with modern technological advances particularly in the area of chemistry, modern nuclear physics, electronics, basic astronautics, history, and political science.

The teaching method emphasizes the necessity of independent study and thought, and encourages the development of the individual cadet to the maximum degree allowed by his motivation and ability. This is achieved by an increase in validation opportunities, the introduction of a limited elective program, an expansion of the number of accelerated-augmented courses for top section cadets, and honors courses.

And yet while modifying its academic or military training whenever the need arises, the Academy builds always on the cornerstone of the Thayer system: leadership integrated by excellence of character and excellence of knowledge.

SUPERINTENDENTS

1.	JONATHAN WILLIAMS, Maj. CE	15 Apr 1802—20 June 1803
2.	JONATHAN WILLIAMS, Lt. Col. CE [1]	19 Apr 1805—31 July 1812
3.	JOSEPH G. SWIFT, Col. CE	31 July 1812—24 Mar 1814
4.	ALDEN PARTRIDGE, Capt. CE	3 Jan 1815—28 July 1817
5.	SYLVANUS THAYER, Capt. CE	28 July 1817—1 July 1833
6.	RENE E. DE RUSSY, Maj. CE	1 July 1833—1 Sept 1838
7.	RICHARD DELAFIELD, Maj. CE	1 Sept 1838—15 Aug 1845
8.	HENRY BREWERTON, Capt. CE	15 Aug 1845—1 Sept 1852
9.	ROBERT E. LEE, Capt. CE	1 Sept 1852—31 Mar 1855
10.	JOHN G. BARNARD, Capt. CE	31 Mar 1855—8 Sept 1856
11.	RICHARD DELAFIELD, Maj. CE	8 Sept 1856—23 Jan 1861
12.	PETER G. T. BEAUREGARD, Capt. CE [2]	23 Jan 1861—28 Jan 1861
13.	RICHARD DELAFIELD, Maj. CE [2]	28 Jan 1861—1 Mar 1861
14.	ALEXANDER H. BOWMAN, Maj. CE	1 Mar 1861—8 July 1864
15.	ZEALOUS B. TOWER, Maj. CE	8 July 1864—8 Sept 1864
16.	GEORGE W. CULLUM, Lt. Col. CE	8 Sept 1864—28 Aug 1866
17.	THOMAS G. PITCHER, Col. INF.[3]	28 Aug 1866—1 Sept 1871
18.	THOMAS H. RUGER, Col. INF.	1 Sept 1871—1 Sept 1876
19.	JOHN M. SCHOFIELD, Maj. Gen. USA	1 Sept 1876—21 Jan 1881
20.	OLIVER O. HOWARD, Brig. Gen. USA	21 Jan 1881—1 Sept 1882
21.	WESLEY MERRITT, Col. CAV.	1 Sept 1882—1 July 1887
22.	JOHN G. PARKE, Col. CE	28 Aug 1887—24 June 1889
23.	JOHN M. WILSON, Lt. Col. CE	26 Aug 1889—31 Mar 1893
24.	OSWALD H. ERNST, Maj. CE	31 Mar 1893—21 Aug 1898
25.	ALBERT L. MILLS, 1st Lt. CAV.	22 Aug 1898—31 Aug 1906
26.	HUGH L. SCOTT, Maj. CAV.	31 Aug 1906—31 Aug 1910
27.	THOMAS H. BARRY, Maj. Gen. USA	31 Aug 1910—31 Aug 1912
28.	CLARENCE P. TOWNSLEY, Col. CAC	31 Aug 1912—30 June 1916
29.	JOHN BIDDLE, Col. CE	1 July 1916—31 May 1917
30.	SAMUEL E. TILLMAN, Col. USA	13 June 1917—11 June 1919
31.	DOUGLAS MAC ARTHUR, Brig. Gen. USA	12 June 1919—30 June 1922
32.	FRED W. SLADEN, Brig. Gen. USA	1 July 1922—23 Mar 1926
33.	MERCH B. STEWART, Brig. Gen. USA	24 Mar 1926—5 Oct 1927
34.	EDWIN B. WINANS, Maj. Gen. USA	23 Oct 1927—25 Feb 1928
35.	WILLIAM R. SMITH, Maj. Gen. USA	26 Feb 1928—30 Apr 1932
36.	WILLIAM D. CONNOR, Maj. Gen. USA	1 May 1932—17 Jan 1938

37. JAY L. BENEDICT, Brig. Gen. USA	5 Feb 1938—17 Nov 1940
38. ROBERT L. EICHELBERGER, Brig. Gen. USA	18 Nov 1940—12 Jan 1942
39. FRANCIS B. WILBY, Maj. Gen. USA	13 Jan 1942—4 Sept 1945
40. MAXWELL D. TAYLOR, Maj. Gen. USA	5 Sept 1945—28 Jan 1949
41. BRYANT E. MOORE, Maj. Gen. USA	28 Jan 1949—17 Jan 1951
42. FREDERICK A. IRVING, Maj. Gen. USA	1 Feb 1951—31 Aug 1954
43. BLACKSHEAR M. BRYAN, Lt. Gen. USA	3 Sept 1954—14 July 1956
44. GARRISON H. DAVIDSON, Lt. Gen. USA	15 July 1956—30 June 1960
45. WILLIAM C. WESTMORELAND, Maj. Gen. USA	1 July 1960—

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[1] Major Williams resigned 20 June 1803, on a point of command, and pending its settlement on 19 April 1805, when he again returned to service as Chief Engineer, no permanent Superintendent was appointed, the command devolving upon the senior officer of the Corps of Engineers present for duty.

[2] Captain Beauregard, by order of John B. Floyd, Secretary of War, relieved Major Delafield from the Superintendency, but was himself displaced five days later by direction of the succeeding Secretary of War Joseph Holt, the command again devolving upon Major Delafield.

[3] The Superintendents were selected from the Corps of Engineers until passage of the law of 13 July 1886, which opened the Superintendency to the entire Army. By the Act of 12 June 1856, the local rank of Colonel was conferred upon the Superintendent.

THE LIBRARY

The library, under the direction of Dr. Sidney Forman, Librarian, contains about 180,000 accessioned books, exclusive of those volumes of 13 academic departments and 24 cadet orderly rooms. In addition, the library subscribes to over 750 periodicals and 34 newspapers. It has microfilm readers, photographic duplicating, and other audio-visual services which include facilities for cadets to listen, individually or in groups, to linguistic materials, readings of plays and poetry, and music. The main library collection occupies a gray stone Tudor building designed by Maj. Richard Delafield in 1841, a large first-floor room in the adjacent East Academic Building, and the Bryant E. Moore Wing, built in 1954.

The library is the first Federal library and antedates the founding of the Academy in 1802 by almost a quarter of a century. The first important additions to the library were in 1815 when Maj. Sylvanus Thayer, Superintendent, 1817–1833, on an official trip to Europe was authorized by Secretary of War James Monroe to use this opportunity to buy military, scientific, and engineering works for the Military Academy. Major Thayer bought about 1,000 volumes. Room for these was provided in the Academy building, opened that same year. The Academy building burned in 1838; in 1841 the library was given space in a new building.

The library is similar to that of a liberal arts college, save that it contains a large proportion of mathematical, scientific, and technical works, and has a very complete military section. The collection of standard literary works is good; and that of eighteenth and nineteenth century periodicals is unusually representative. The library's broad coverage in the field of military art, history, and technology make it a prototype of a national military library.

The manuscript and archival collection is extensive, and deals principally, though by no means exclusively, with the United

States Army, the Military Academy, and persons of the military profession. The collection of early American military art imprints is unique. The library is rich in both original and secondary sources dealing with the history of the Hudson Highlands.

The Archives and History Division maintains extensive cadet and Military Academy administrative records and conducts a historical program relating to the Military Academy and West Point.

A celebrated collection of 10 portraits by Thomas Sully is housed in the library. The best known are those of Thomas Jefferson, James Monroe, and Jonathan Williams, all painted from life expressly for the Military Academy. An original portrait of George Washington by Gilbert Stuart, and one of Gen. Winfield Scott by Robert W. Weir are worthy of note. Mention should be made likewise of the Edgar Allan Poe Memorial Doorway and of the James McNeill Whistler Memorial Plaque, both of white marble. Near the plaque are a number of sketches done by Whistler in his cadet days.

The facilities of the library are available to research scholars and writers. It is open from 8:00 a.m. to 9:30 p.m. during weekdays; from 8:00 a.m. to 6:00 p.m. on Saturdays, and from 2:00 to 6:00 p.m. on Sundays and holidays. Evening hours are restricted to cadets and military personnel.

THE WEST POINT MUSEUM

The West Point Museum is located in Thayer Hall, occupying the first and second floors of the southwest portion of this academic building. Frederick P. Todd is the Director. Its galleries are open without charge to the public throughout the year, every day of the week, from 10:30 a.m. to 4:30 p.m. The Museum is closed only on Christmas and New Year's Day.

Adjacent to the public galleries are the storage and research rooms maintained by the Museum to carry out its primary duty as a college museum by supporting the academic and military education of cadets of the Military Academy. To this end it maintains a continuous series of changing exhibits in cadet areas, arranges lectures and demonstrations, and opens its collections for loans to instructors and cadets. To this end also it maintains a considerable display of portraits and paintings, battle flags and other exhibits in various buildings on the post. Some of these paintings and flags can be seen by the public in the Library, the Cadet Chapel, and in Grant Hall.

The West Point Museum was established in 1854 but its collections actually date back to 1777. After the Battle of Saratoga in October of that year, much of the ordnance captured from the British was sent to West Point. A little later, part of the famous Great Chain stretched across the Hudson at West Point to bar navigation of the river to British men-of-war was stored here.

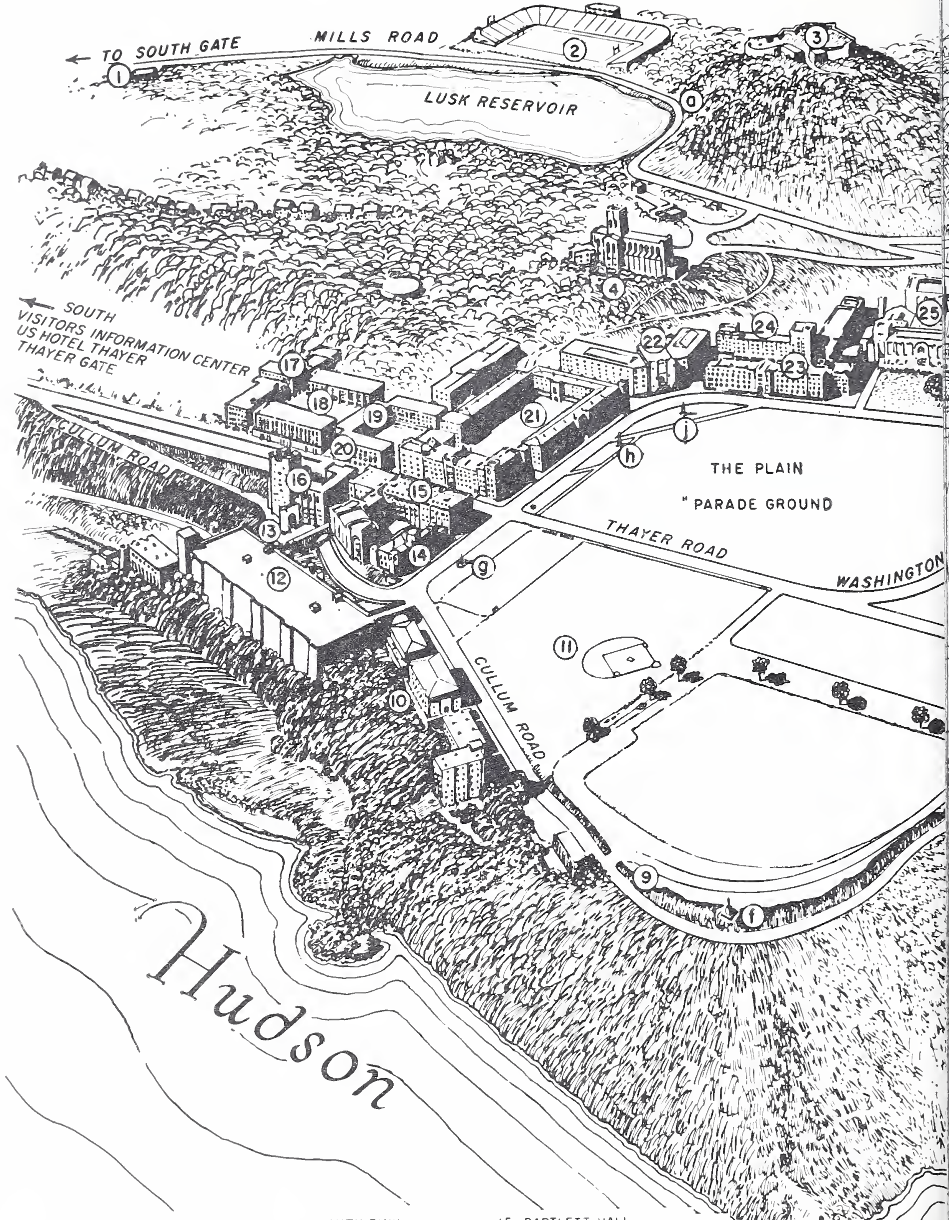
Throughout the first half of the nineteenth century the custom of sending trophies of war and objects of national historic interest to the Military Academy was maintained. In 1843, for example, the Secretary of the Treasury presented West Point with a brass culverin 6-pounder that had been given to the Continental Congress by Lafayette. After the close of the Mexican War in 1847, Gen. Winfield Scott sent large numbers of captured flags, cannon, and other war trophies to the Military Academy.

In 1848 the Secretary of War formally directed in the President's name that West Point be the "depository of the trophies of the successful victory of our arms in Mexico." The authorities there realized that permanent provision was needed for the ever-growing collections, and in 1854 they officially created the Ordnance and Artillery Museum, and established it on the third floor of the Academy, a building erected in 1838 on the site of the present East Cadet Barracks. Custodianship of relics, however, was not the new museum's only mission; for most of the next century it served as the laboratory for cadet instruction under the Department of Ordnance.

In 1909 the Museum was moved to the Administration Building where it remained until 1958. It was removed from the Department of Ordnance in 1948 and placed on an independent status. A full-time director was appointed in 1949 and given a professional staff.

The West Point Museum has probably the largest collection of military items in the Western Hemisphere. Unlike most military museums the story it tells is not confined to a national scene. One gallery is devoted to the development of military institutions and the art of war from the days of the Romans until the present; while others deal with ordnance, logistics, medals and decorations and kindred aspects of the military history of the Western World. The visitor is introduced to the important developments in tactics, to the Great Captains of History, and to the everyday life of the soldier. He is given to understand something of the impact on warfare of such historic events as the Industrial Revolution and nuclear fission.

The visitor's understanding of such matters is heightened by an extensive use of dioramas and full scale models. The visitor can, for example, stand behind a palisade of the days of the Indian Wars in America, or walk through a portion of a World War I trench. He can view episodes in important battles from Cynoscephalae in the year 197 B.C. to Gettysburg of 1863. In keeping with developments in other American museums, the West Point Museum has endeavored to fulfill its historical mission by treating, in part at least, with intangible cultural concepts and movements as well as with tangible objects.


TO SOUTH GATE
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VISITORS INFORMATION CENTER
US HOTEL THAYER
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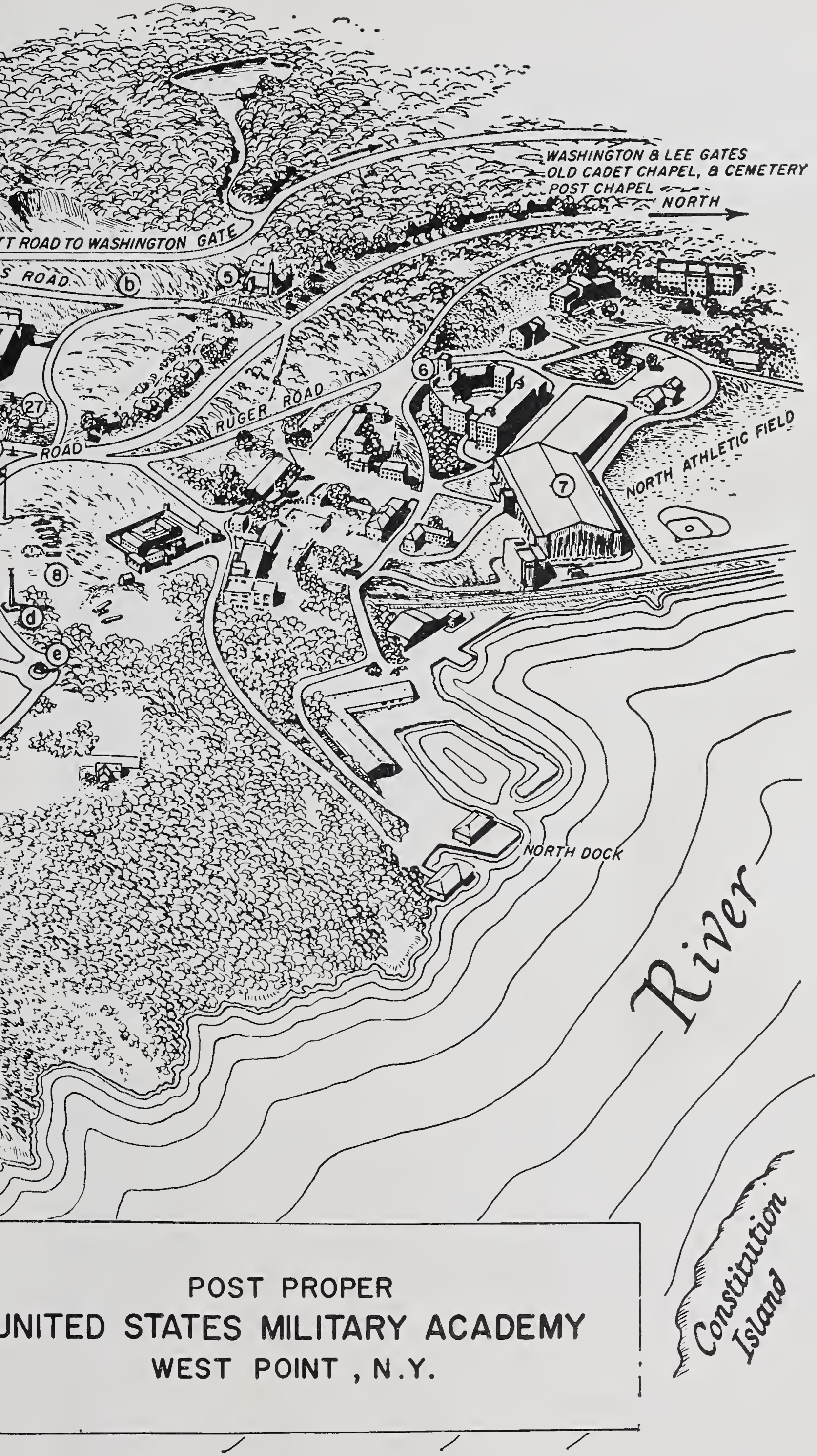
a. AIR CADET MEMORIAL
b WIRT ROBINSON MEMORIAL
c SEDGWICK MONUMENT
d. BATTLE MONUMENT
e WASHINGTON MONUMENT
f KOSCIUSZKO MONUMENT
g PATTON MONUMENT
h. FRENCH MONUMENT
j. THAYER MONUMENT

1 SMITH RINK
2 MICHIE STADIUM
3 FORT PUTNAM
4 CADET CHAPEL
5 CATHOLIC CHAPEL
6 MAIN POST EXCHANGE
7 FIELD HOUSE
8 TROPHY POINT
9 FORT CLINTON
10 CULLUM HALL
11 DOUBLEDAY FIELD
12 THAYER ACADEMIC HALL
13 MUSEUM
14 LIBRARY

15 BARTLETT HALL
16 ADMINISTRATION BUILDING
17 U S ARMY HOSPITAL
18 NEW SOUTH CADET BARRACKS
19 SOUTH CADET BARRACKS
20 GRANT HALL
21. CENTRAL CADET BARRACKS
22 WASHINGTON HALL
23 NORTH CADET BARRACKS
24 NEW NORTH CADET BARRACKS
25 GYMNASIUM
26 SUPERINTENDENT'S QUARTERS
27. COMMANDANT'S QUARTERS


WASHINGTON & LEE GATES
OLD CADET CHAPEL, & CEMETERY
POST CHAPEL
NORTH
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ROAD
RUGER ROAD
NORTH ATHLETIC FIELD
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NORTH DOCK
River
Constitution Island

POST PROPER
UNITED STATES MILITARY ACADEMY
WEST POINT, N.Y.

BUILDINGS AND GROUNDS

The military reservation at West Point consists of 16,011 acres. The original purchase of 1,770 acres was made from Stephen Moore in 1790; additional purchases made in 1824, 1879, 1889, 1903, 1905, and 1909 brought the acreage to 3,570.

From 1938 to 1945 the acreage was more than tripled by the acquisition of 11,401 acres to allow for the development and expansion of training facilities. On 1 December 1959 a gift of 1,040 acres by Mr. and Mrs. Gene Leone increased the holdings to the present total.

Of this total, 2,520 acres are the Post proper; they comprise the area lying south of Storm King Mountain between the old Storm King Highway and the Hudson River. Access to the Post proper is by three gates: the Thayer Gate (South Gate), from Highland Falls; the Lee Gate (North Gate), from the old Storm King Highway (Route NY 218); and the Washington Gate (West Gate), from the new Storm King Highway (Route US 9W).

The expansion since 1938 has been toward the west almost as far as Central Valley and toward the south almost as far as Route US 6. Route NY 293 runs from southwest to northeast on about the midline of the entire reservation.

BUILDINGS

ADMINISTRATION BUILDING (1909). Designed by Cram, Goodhue, and Ferguson in Gothic style. It is located on Thayer Road and contains the offices of the Superintendent, the Dean, the Academic Board, the General Staff, the Admissions Division, and the Registrar. The Information Office, Post Office, and Telegraph Office are on the ground floor. The USMA Archives also occupy a portion of the building.

BARTLETT HALL (1913, 1938). Formerly the East Academic Building, it is named in memory of Col. William H. C. Bartlett, Professor of Natural and Experimental Philosophy, 1836–1871. The original building, 1913, was designed by Cram, Goodhue, and Ferguson; the east wing, 1938, by Paul Philippe Cret. Both are in Gothic style. Located between Thayer and Cullum Roads, north of he Administration Building. In addition to classrooms and laboraories it contains the offices of the Departments of Electricity, Mechanics, and Physics and Chemistry.

CADET CHAPEL (1910). Designed by Cram, Goodhue, and Ferguson in Gothic style. Located west of, and 300 feet above, he cadet barracks, it dominates the Post proper. The stained glass window over the altar has 27 panels, each depicting a militant Biblical character. The window at the entrance pictures The Revelation of St. John the Divine; it shows also the designs of the Medal of Honor and the Distinguished Service Cross. The windows in the nave are gifts of the several classes; the flags hanging in the nave were used in the War of 1812, the Mexican, Civil, and Spanish-American Wars. The Chapel Organ is the argest church organ in the Western Hemisphere, and contains over 14,000 pipes. The seating capacity is 1,500.

CENTRAL BARRACKS (1851, 1882, 1921). The designers of the 851 and 1882 sections are not known, although it is likely that Maj. Richard Delafield had much to do with the design of the 851 section and a Board of Engineers with the 1882 section. Capt. A. B. Proctor, Quartermaster Corps, designed the 1921 section. All are in Tudor style. The three sections form the three sides of rectangle of which the East Barracks, located at Thayer and Jefferson Roads, forms the fourth side. The headquarters of the Commandant of Cadets is in a wing at the eastern end of the outh section.

CHAPEL OF THE MOST HOLY TRINITY (1900). Designed by eins and La Forge in Gothic style. Located at Mills and Washngton Roads, on a sharp rise of ground, this Roman Catholic hapel is a copy of the St. Ethelreda Carthusian abbey parish hurch in County Essex, England. The chapel, expanded in 1958 ccording to plans prepared by architect Alfred Reinhart, now as a seating capacity of 550.

CULLUM MEMORIAL HALL (1899). Designed by McKim, Mead, and White in Greco-Roman style. Located on the east side of Cullum Road, across from Doubleday Field, and named after Major General George W. Cullum, USMA 1833, Superintendent 1864–1866, who gave it to house trophies of war and "statues, busts, mural tablets, and portraits of distinguished deceased officers and graduates of the Military Academy."

EAST BARRACKS (1895). Formerly the West Academic Building, located on Thayer Road opposite the East Academic Building, designed by Richard M. Hunt in Gothic style. It was converted to cadet barracks in 1958–1959.

FIELD HOUSE (1939). Designed by Paul Philippe Cret. Located on Tower Road southwest of the West Shore Railroad. Used for indoor athletics and graduation ceremonies.

GRANT HALL (1931). A wing of the South Barracks on Thayer Road directly across from the Administration Building. It is the cadet reception hall and contains the office of the cadet hostess.

GYMNASIUM (1910, 1933, 1937, 1947). The East Gymnasium (1910) was designed by Cram, Goodhue, and Ferguson; the North Gymnasium (1933) by the Quartermaster Corps; the West Gymnasium (1937) by Paul Philippe Cret; and the Central Gymnasium (1947) by Delano and Aldrich. All are in Gothic style. The gymnasium buildings are west of the Superintendent's quarters and north of New North Barracks.

HOSPITAL (1923, 1934, 1960). New buildings were constructed in 1923, William Gehron, architect, and in 1934, York and Sawyer, architects; extensive alterations were done in 1960. Located on the west side of Thayer Road, south of New Cadet Barracks.

LAUNDRY (1956). Designed by John and Drew Eberson; located in the north portion of Post off Washington Road near Washington Gate.

LIBRARY (1841, 1900). Designed by Maj. Richard Delafield in Tudor style. Located at Jefferson and Cullum Roads, it was intended originally to house Post Headquarters, the Department of Natural and Experimental Philosophy, and the Astronomical Observatory. The central tower was surmounted by a traveling dome, resting on six 24-pound cannon balls that turned in cast-iron grooves. In 1901 the building was remodeled to adapt it to library purposes.

NEW CADET BARRACKS (1961). Designed by O'Connor and Kilhan, in Gothic style. The new barracks, consisting of two buildings, are located on the site formerly occupied by the north wing of the Hospital. When completed in July 1962 they will permit the Corps, for the first time in 40 years, to be housed two cadets per room.

NEW NORTH BARRACKS (1939). Designed by Paul Philippe Cret in Gothic style. Located south of the gymnasium and west of North Barracks. Sometimes called West Barracks.

NON-COMMISSIONED OFFICERS' MESS (1958). Located in the north portion of the Post off Washington Road, it was designed by Greenberg and Ames.

NORTH BARRACKS (1908). Designed by Cram, Goodhue, and Ferguson in Gothic style. Located at Jefferson Road and Scott Place. The chaplain's office is on the ground floor in the southeast corner.

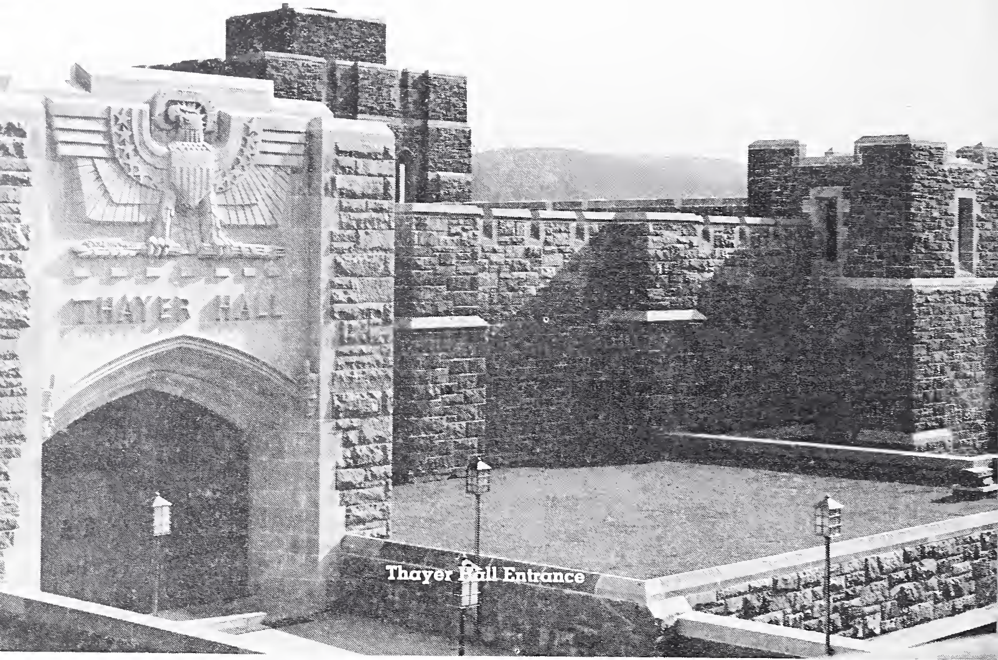
OLD CADET CHAPEL (1837). Architect unknown. Designed in Greco-Roman style. It was located originally where the East Academic Building now stands; in 1911 it was moved to its present site at the entrance to the cemetery. The American artist, Robert W. Weir, professor of drawing at the Academy from 1834 to 1876, painted the mural, entitled "War and Peace", that hangs on the wall behind the altar. The chapel is used now for mortuary services, and for Jewish religious services. The seating capacity is about 450.

ORDNANCE AUTOMOTIVE LABORATORY (1939). Designed by Paul Philippe Cret in Gothic style. Located on Howard Road.

POST CHAPEL (1944). Constructed from a standard design used during World War II for chapels erected on military reservations. Located between Merritt Road and Biddle Loop. The seating capacity is about 325.

POWER HOUSE (1909, 1945, 1947). The original building was designed by Cram, Goodhue, and Ferguson in Gothic style; the alterations of 1945 and 1947 were done by the Engineer Corps. Located just south of Thayer Hall on Cullum Road.

SMITH RINK (1931). The indoor ice-skating rink, located on the east side of Mills Road south of the reservoir. It is named after Maj. Gen. William R. Smith, USMA 1892, Superintendent 1928–1932.


THAYER HALL

Thayer Hall Entrance

SOUTH BARRACKS (1931). Designed by William Gehron in Gothic style. Located at the southwest corner of Thayer and Brewerton Roads.

SUPERINTENDENT'S QUARTERS (1820). Architect unknown. Designed in Colonial style, and located on Jefferson Road. Col. Sylvanus Thayer was the first Superintendent to live there. Directly to the north are the Commandant's Quarters at the southwest corner of Parke and Washington Roads.

THAYER HALL (1958). This is an entirely new structure, built within the walls of the Old Riding Hall. The building, designed by Gehron and Seltzer of New York, is of structural steel framing with reinforced concrete, completely air conditioned, and practically windowless. Besides administrative space for the Departments of English, Foreign Languages, Law, Mathematics, Military Art and Engineering, Military Psychology and Leadership, Ordnance, and Social Sciences, it includes 98 classrooms, two 200-seat writ rooms, two 200-seat map-problem rooms, an 800-seat auditorium, a 1,500-seat auditorium, a materials testing laboratory, and space on the first and second floors for the Museum which was formerly in the Administration Building. Roof parking for 192 automobiles also has been provided.

UNITED STATES HOTEL THAYER (1926, 1948). Designed by Caugey and Evans in Tudor style. Located on the east side of Thayer Road just north of the Thayer Gate. It is owned by the Government. Including the addition completed in 1948, there are accommodations for 500 guests.

UTILITIES BUILDING (1935). Designed by the Quartermaster Corps in Tudor style. Located at Ruger and Tower Roads. It contains the Post Exchange and the Commissary; and the offices of the Post Engineer, the Post Quartermaster, and the Post Transportation Officer.

WASHINGTON HALL (1929). Designed by William Gehron in Gothic style. Located on Jefferson Road between Central Barracks and North Barracks. It is the Cadet Dining Hall, and has a seating capacity of 2500. The offices and drafting rooms of the Department of Earth, Space, and Graphics Sciences are on the fifth floor.

WEST POINT ARMY MESS (1903). The official name of the Officers' Club. Designed by McKim, Mead, and White in Classic style. Located on Cullum Road, south of Cullum Hall.

MONUMENTS

AIR CADET MEMORIAL (1944). Located on Mills Road at the north end of Lusk Reservoir. Erected by members of the Classes of '43, '44, and '45 to the memory of Air Cadets of the Academy who lost their lives while undergoing flying training.

BATTLE MONUMENT (1897). Designed by Stanford White, executed by Frederick MacMonnies. Located at Trophy Point at the northern limit of the Plain, and a little to the west of Washington Monument. It is dedicated to the memory of soldiers and officers of the Regular Army killed in action in the Civil War.

DRINKING FOUNTAIN (1957). Located at the corner of Thayer and Jefferson Roads, it was presented to the Academy by the Class of 1915.

FRENCH CADET MONUMENT (1919). Presented by the cadets of L'Ecole Polytechnique. Located on The Parade directly opposite Central Barracks.

KOSCIUSZKO MONUMENT (1828). Designed by John H. Latrobe, USMA 1822. Located to the north of Fort Clinton. Given by the Corps of Cadets in honor of Col. Thaddeus Kosciuszko, who helped plan the fortifications at West Point during the Revolutionary War.

PATTON MONUMENT (1950). Dedicated to the memory of Gen. George Smith Patton, Jr., USMA 1909, and presented by the officers and men of the units he commanded. Located across Jefferson Road from the Library.

ROBINSON MEMORIAL (1940). Located on Mills Road, west of gymnasium, in memory of Col. Wirt Robinson, Professor of Chemistry, Mineralogy, and Geology.

SEDGWICK MONUMENT (1868). Dedicated to the memory of Maj. Gen. John Sedgwick, USMA 1837, killed at Spotsylvania, 1864. Made from cannon captured by his corps, it is located at the northwest corner of The Parade.

SHERIDAN MEMORIAL (1932). Located on Flirtation Walk, in a small cove northwest of Gee's Point. Erected by the Corps of Cadets in honor of Cadet Richard Brinsley Sheridan, Jr., who was fatally injured on the gridiron of Yale Bowl, 24 October 1931.

THAYER MONUMENT (1883). Dedicated to Col. Sylvanus Thayer, the "Father of the Military Academy." Located on The Parade directly across from the entrance to Washington Hall.

WASHINGTON MONUMENT (1916). Located in the circle at the corner of Cullum and Thayer Roads. It is a replica of the Washington Monument in Union Square, New York City.

GROUNDS

CAMP BUCKNER (1945). The summer training camp for the Third Class, located on the reservation five miles southwest of the Post proper, and known formerly as Camp Popolopen. Renamed in honor of Lt. Gen. Simon Bolivar Buckner, USMA 1908, killed at Okinawa in 1945.

CEMETERY (1816). Located at Washington and Ruger Roads. Among others, it contains the graves of Margaret Corbin, Revolutionary War heroine, and of Generals Scott, Custer, and Goethals.

CLINTON FIELD. Located immediately north of Doubleday Field and west of Fort Clinton. The name of the field derives from the Fort, named for a Revolutionary War general. Clinton Field was the site of the cadet's summer encampment from 1819 to 1942. It is used now for soccer, football, etc.

CONSTITUTION ISLAND. Donated to West Point in 1909 by Mrs. Russell Sage and Miss Anna B. Warner. About 280 acres, it is located opposite the north area of the Post proper. One end of the Great Chain, stretched across the Hudson to obstruct British navigation of the river during the Revolutionary War, was anchored in Martelaer's Rock, at the western point of the island.

DELAFIELD POND. The outdoor swimming pool, located on Delafield Road. Named after Maj. Gen. Richard Delafield, USMA 1818, Superintendent, 1838–1845 and 1856–1861.

DOUBLEDAY FIELD (1939). Baseball field, located between Thayer and Cullum Roads, east of The Parade. Named in honor of Maj. Gen. Abner Doubleday, USMA 1842, who is said to have laid out the first modern baseball diamond at Cooperstown, N.Y., in 1839.

FLIRTATION WALK. A foot trail extending three-quarters of a mile along the river from Cullum Road to Battle Monument and open only to cadets and their guests. It is probable that the early Chain Battery Walk is now included in Flirtation Walk.

FORT CLINTON (1778). Designed and begun by Lt. Col. Louis de la Radiére and completed by Col. Thaddeus Kosciuszko. Located at Cullum Road and Clinton Place. Originally called Fort Arnold, but after Arnold's treason in 1780 was renamed Fort Clinton, after Gen. George Clinton.

FORT PUTNAM (1778; partly restored, 1907–10). Designed by Col. Thaddeus Kosciuszko and built by troops of Gen. Rufus Putnam. It is located on Mount Independence, 451 feet above tidewater, and is reached by foot trail from Mills Road.

GREAT CHAIN. The chain stretched across the Hudson from just north of Gee's Point to Martelaer's Rock on Constitution Island to obstruct navigation of the river by the British during the Revolutionary War. It was fastened in place on 11 April 1781. A number of the links are at Trophy Point.

HOWZE FIELD. Located directly south of Michie Stadium, and bounded by Mills Road on the east, by Howze Place on the south, and by Delafield Road on the west. A large recreation field, it was named in honor of Maj. Gen. Robert Lee Howze, USMA 1888, Commandant of Cadets, 1905–1909.

LUSK RESERVOIR (1898). One of the water supply reservoirs for West Point. It is located on Mills Road directly across from Michie Stadium, and has a capacity of 92,000,000 gallons.

MICHIE STADIUM (1924). The football stadium, between Delafield and Mills Roads, west of the reservoir. Named for 1st Lt. Dennis Mahan Michie, USMA 1892, captain of the first West Point football team, killed in action at San Juan, Cuba, in 1898. The seating capacity is about 28,000.

THE PARADE. The drill and parade field, bounded by Jefferson Road on the south and west, by Thayer Road on the east, and by Washington Road on the north.

THE PLAIN. That portion of the ground embracing The Parade, Clinton Field, and Doubleday Field.

SHEA STADIUM (1958). Track and field stadium, located northwest of the Field House. Named for Lt. Richard Thomas Shea, Jr., USMA 1952, captain of the 1952 track and field teams, star athlete and record holder, killed in Korea in 1953 and posthumously awarded the Medal of Honor.

STILWELL DAM AND STILWELL LAKE (1949). Located on the reservation about four miles southwest of the Post proper. Named in honor of Gen. Joseph Warren Stilwell, USMA 1904, Commanding General U.S. Forces China-Burma-India 1942–1944, and Commanding General U.S. Tenth Army 1945.

TROPHY POINT. A small plot of ground located north of The Parade where are grouped many trophies captured in war by American forces. Several links of the Great Chain are there.

ASSOCIATION OF GRADUATES

The Association of Graduates is a voluntary membership organization open to all graduates of the Military Academy and to former cadets who were honorably discharged after at least one full academic term at the Academy. About 94 percent of the approximately 16,500 living graduates, and many former cadets who did not graduate, are members.

The Association was founded at New York City in 1869 under the personal leadership of Brig. Gen. Sylvanus Thayer and Maj. Gen. Robert Anderson, USMA 1825, hero of Fort Sumter. Annual meetings have been held at West Point during June Week since 1870. Its purpose is "To acquire and disseminate information on the history, activities, objectives, and methods of the Military Academy; to acquire and preserve historical materials relating to that institution; and to encourage and foster the study of Military Science there by worthy young men."

The Bureau of Internal Revenue has ruled that the Association is itself tax exempt and all gifts, contributions, donations, and bequests thereto are likewise exempt from taxation. The Association of Graduates is the only organization by which the alumni as a body can contribute their time, effort, and money toward the enhancement of their Alma Mater.

Under the aegis of the Association three annual events have grown to become important traditions. At the Alumni Parade, held on Alumni Day in June Week, the assembled graduates led by the Superintendent, the President of the Association of Graduates, and the Oldest Graduate Present, The Long Gray Line marches from Cullum Memorial Hall to Thayer Monument. There, in the presence of the Corps and a multitude of visitors, homage is paid to the "Father of the Military Academy" and to the memory of those graduates who died during the preceding year. It has been said that this gathering of alumni represents, by those attending, more United States history than any other group of similar size.

Founders Day, 16 March, is celebrated at West Point and by some 80 similar gatherings throughout the world. These celebrations traditionally include a dinner, attended by all alumni within commuting distance, and speeches by the oldest and youngest graduates present. These Founders Day Dinners are the occasion for individual and group renewal of devotion to the principles of our Alma Mater.

Homecoming Weekend is held during the fall, in connection with a football game. It is primarily a social and reunion type of activity. The junior reunion class (5th Reunion) sometimes holds its reunion during Homecoming.

Some of the programs followed in fulfilling the purposes of the Association are: maintaining personal files on all graduates, publishing necrologies of graduates, receiving historical items and information, providing source material for research regarding graduates, stimulating establishment of West Point Societies, presenting annual awards for military efficiency to cadets, and presenting annually the Sylvanus Thayer award to that citizen whose record of service, whose accomplishments in the national interest, and whose manner of achievement exemplify outstanding devotion to "Duty, Honor, Country." Presentation is made at West Point on Founders Day.

Information is disseminated through two publications published by the West Point Alumni Foundation, Inc., a nonprofit corporation. The annual **Register of Graduates and Former Cadets** includes a summary of the record of each graduate and where he is and what he is doing. The quarterly magazine **Assembly** gives current information about the Academy and its graduates.

The Association's administrative organization consists of a President and five Vice Presidents, elected annually; a Secretary-Treasurer; and 36 Trustees, 12 of whom are elected annually for terms of three years. The Association's office is located in Cullum Memorial Hall.

Cooperating with the Association are the following autonomous West Point Societies:

WEST POINT SOCIETIES

Alabama	ALABAMA (Birmingham)
Arizona	PHOENIX
	SOUTHERN ARIZONA (Tucson)
Arkansas	ARKANSAS (Fort Smith)
California	LOS ANGELES
	MONTEREY PENINSULA (Monterey)
	SAN FRANCISCO BAY AREA
Colorado	DENVER
	PIKES PEAK REGION (Colorado Springs)
Connecticut	CONNECTICUT (Hartford)
District of Columbia	DISTRICT OF COLUMBIA
Florida	CENTRAL FLORIDA (Orlando)
	FLORIDA WEST COAST (Tampa)
	SOUTH FLORIDA (Miami)
Georgia	ATLANTA
	COLUMBUS
	SAVANNAH
Hawaii	HAWAII (Honolulu)
Illinois	CENTRAL ILLINOIS (Champaign-Urbana)
	CHICAGO
Indiana	INDIANAPOLIS
Kentucky	LOUISVILLE
Louisiana	MID-GULF (New Orleans)
Maryland	MARYLAND (Baltimore)
Massachusetts	NEW ENGLAND (Boston)
Michigan	MICHIGAN (Detroit)
Minnesota	MINNESOTA (Minneapolis)
Mississippi	MISSISSIPPI (Jackson)
Missouri	KANSAS CITY
	ST. LOUIS
New Mexico	ALBUQUERQUE
New York	NEW YORK
	ROCHESTER
	WESTERN NEW YORK (Buffalo)
North Carolina	WESTERN NORTH CAROLINA (Asheville)
North Dakota	NORTH DAKOTA (Bismarck)
Ohio	CENTRAL OHIO (Columbus)
	CINCINNATI
	CLEVELAND
	NORTHWESTERN OHIO (Van Wert)
Oregon	PORTLAND

WEST POINT SOCIETIES—Continued

Pennsylvania	CENTRAL PENNSYLVANIA (Harrisburg)
	PHILADELPHIA
	WESTERN PENNSYLVANIA (Pittsburgh)
Philippine Islands	PHILIPPINES (Manila)
South Carolina	CHARLESTON
Tennessee	TENNESSEE (Nashville)
Texas	EL PASO AREA
	HOUSTON
	NORTH TEXAS (Dallas)
	SOUTH TEXAS (San Antonio)
Washington	SEATTLE

APPENDICES

APPENDICES

I. SPECIAL MEDICAL EXAMINATION CONSIDERATIONS

The following special medical examination considerations are listed in order that candidates, prospective candidates, their private physicians and dentists may have readily available medical requirements for entrance to the Academy.

MEDICAL HISTORY: The medical history will be compiled with particular care. Inquiries will be made in detail concerning all illnesses, injuries, and operations which the candidates may have incurred, and elaborated upon when indicated. A history of familial diseases will be investigated with thoroughness. If the candidate has received medical care which significantly affects his physical status, then he will be required, whenever practicable, to submit evidence from attending physicians or from hospital records concerning this medical care.

BODY BUILD AND MEASUREMENTS: Build will be recorded as slender, medium or heavy. In addition, where obesity exists it will also be recorded. Poor physical development, regardless of actual height and weight ratio, is a cause for rejection.

The following standard weight table according to height and age applies.

Standards of Weight According to Height

Height (inches)	Weight		Height (inches)	Weight	
	Min.	Max.		Min.	Max.
66	107	191	73	135	231
67	111	196	74	139	237
68	115	202	75	143	243
69	119	208	76	147	248
70	123	214	77	151	254
71	127	219	78	153	260
72	131	225			

A range in height from 66 inches to 78 inches inclusive is required, except that applicants under 20 years of age on 1 July of the year of entry to the Academy may be granted a waiver of 1 inch below the minimum height. A waiver for overheight or 2 inches below the minimum height may be considered by the Department of the Army, provided the candidate possesses exceptional educational qualifications, or has an outstanding military record, or has demonstrated outstanding abilities. Height will be carefully measured without shoes or stockings and will be recorded to the nearest quarter of an inch. The weight will be taken without shoes or clothing and recorded to the nearest pound.

TEETH. The teeth, mouth, and gums will be thoroughly examined by a dental officer of the military service. The examination will include bite-wing roentgenograms in all cases and periapical roentgenograms when indicated. Notation will be made as to the serviceability or unserviceability of all dentures and bridges. Defects and infections, including periodontal disease, will be recorded and classified as to severity. Dental examinations of applicants wearing appliances for active orthodontic treatment will be deferred until such appliances are removed.

Dental standards for acceptance are as follows:

(1) A satisfactory relationship between the mandible and the maxilla of such nature that adequate prosthodontic replacements may be fabricated should it become necessary to remove any or all of the remaining natural teeth.

(2) That existing prosthodontic appliances meet generally acceptable standards of design, construction, and tissue adaptation.

(3) In the case of an existing lower prosthodontic appliance, that it be retained and adequately stabilized by sufficient serviceable natural teeth.

(4) No carious teeth or improperly restored, or filled, natural teeth.

(5) Must not have grossly disfiguring spaces between the existing natural anterior teeth.

(6) A sufficient number of serviceable anterior and posterior natural or artificial teeth so opposed as to permit the proper mastication of a normal diet.

Causes for rejection are:

(1) Failure to meet the requirements and standards set forth above.

(2) Diseases of the jaws or associated tissues which are not easily remediable, would incapacitate the individual, and might prevent his satisfactory performance of duty.

(3) Orthodontic appliances required for the active movement of teeth.

The military dental examiner will not release information concerning dental acceptability to the candidate or to other unauthorized persons. However, he should inform the candidate of dental defects which may be remedied.

The Adjutant General will notify the candidate with regard to acceptance or rejection, and as to required corrective actions, if any. Authority to proceed to the Military Academy will not be granted until a statement is received from the candidate's dentist indicating that all corrective measures, including the restoration of carious teeth as indicated by bite-wing X-rays, have been accomplished. The candidate will be instructed to obtain and forward such a statement as soon as treatment has been completed.

It is recommended that each candidate contact his dentist to insure that all necessary restorations and other required dental operations are accomplished prior to reporting for the entrance medical examination.

EYES AND VISION. Any degree of uncorrected vision is acceptable provided it is correctible to 20/20 in each eye. In all cases the actual vision of each eye and the correcting lenses, if required, will be reported. Careful inquiry will be made by the board of symptoms of asthenopia, and any symptoms elicited will be recorded. The refractive error will be determined by a cycloplegic examination, unless contraindicated medically, in all cases where the candidate's uncorrected vision is less than 20/20 in either eye and in other instances when indicated. The refractive error will be determined under a cycloplegic 1 hour after the instillation of the mydriatic. Errors of refraction will be a cause for rejection, even though the visual acuity falls within acceptable limits. Total hyperopia of more than five and one-half (5.50) diopters in any meridian of either eye, total myopia of more than five and one-half (5.50) diopters in any meridian in either eye, astigmatic error of more than three (3.00) diopters in either eye, or anisometropia of more than three and one-half (3.50) diopters is cause for rejection.

Muscle balance of the eyes will be determined by the Maddox rod screen test and 20 feet in all cases and will be reported in prism diopters. Esophoria of more than 15 prism diopters, exophoria of more than 10 prism diopters, and hyperphoria of more than 2 prism diopters are causes for rejection.

Both eyes must be free from any disfiguring or incapacitating abnormality and from acute or chronic disease.

Color blindness to a pronounced degree (unable to distinguish between a vivid green and a vivid red) is a cause for rejection.

EARS AND HEARING. Auditory acuity of all candidates will be determined by the audiometer. Loss of hearing, as determined by the audiometer, must not be greater than 15 decibels in any of the frequencies 500, 1,000, and 2,000, nor greater than 45 decibels in the frequency 4,000. Each candidate will be tested at the following frequencies: 250, 500, 1,000, 2,000, and 4,000. Existing perforation of the membrana tympani, regardless of etiology, is a cause for rejection. Both ears must be free from any disfiguring or incapacitating abnormality and from acute or chronic disease.

NARES. Septal deviation, hypertrophic rhinitis, or other conditions which result in 50 percent or more obstruction of either airway, or which interfere with drainage of a sinus on either side, are causes for rejection.

SKIN. Psoriasis or acne, moderately severe, and the deeply pitted scars resulting therefrom, vitiligo or other skin defect which is disfiguring or unsightly and bromidrosis, more than mild, are causes for rejection.

HEART AND BLOOD VESSELS. Where there is a history of rheumatic fever or questionable cardiac findings, a thorough investigation will be made, including detailed history, fluoroscopic examination of the heart, a 6-foot chest X-ray film permitting accurate determination of the cardiothoracic ratio, and an electrocardiogram, in addition to a careful general physical examination. Any evidence of organic heart disease will be considered cause for rejection. When a candidate is found to have a systolic blood pressure of 140 millimeters or more, or diastolic of 85 or more, readings will be taken each morning and afternoon over a period of three or more successive days, in order to determine whether the hypertension is persistent and, if possible, the cause thereof. Persistent blood pressure, systolic 140 millimeters or more, diastolic 90 millimeters or more, on repeated examination is a cause for rejection. All readings will be taken with the individual relaxed and in the sitting position after a period of normal physical activity. A period of recumbency will not be resorted to prior to taking readings. Pulses of the upper and lower extremities should be palpated and the hands and feet should be observed for abnormalities of color and temperature, and for pallor on elevation. The absence of a pulse or the presence of pallor or temperature change will be cause for a more detailed vascular evaluation.

Varicosities of any extremity unless correctible by treatment or mild in degree are cause for rejection. Resultant pigmentation, dermatitis, ulceration, demonstrable edema, or pain substantiated by medical evidence, are causes for rejection.

SEROLOGIC TESTS. A serologic test for syphilis will be required for all candidates. A negative report will be accepted as satisfactory evidence of freedom from syphilis in the absence of a history of, previous treatment for, or clinical signs of syphilis. A positive or doubtful report will be rechecked by both a cardiolipin microflocculation and a cardiolipin complement fixation test within 3 days. An authentic history of syphilis of any type is cause for rejection without further laboratory procedure. A repeated positive serologic test, in the absence of a history of syphilis, will be accepted as evidence of the disease and considered cause for rejection. A positive spinal fluid test for syphilis at any time will be cause for rejection.

GENITOURINARY SYSTEM. Persistent albuminuria of any type or the persistence of casts in the urine will be cause for rejection, even though the etiology cannot be determined. Other causes for rejection: phimosis; epispadias or pronounced hypospadias; amputation or deformity of the penis; atrophy, deformity or maldevelopment of both testicles; or undescended testicles of any degree.

ORTHOPEDIC. Suitable exercises will be employed to determine the strength of the arches. When pes planus is more than mild, a note will be made as to the presence or absence of bulging of the inner border due to rotation or eversion of the astragalus and any callosities. Pes planus more than mild or with marked bulging of the inner border of the astragalus, or weak and painful feet, will be a cause for rejection.

Pes cavus with clawing of the toes and calluses beneath the metatarsals heads is cause for rejection.

Where a history of deranged knee is elicited, note will be made as to the presence or absence of lateral or other abnormal mobility of the knee, muscle atrophy, or weakness and if symptoms have occurred within the past 12 months.

Lateral deviation of the spine from the normal midline of more than 1 inch is cause for X-ray and clinical evaluation.

ASTHMA. Asthma or a history of asthma, except a history of childhood asthma with a trustworthy history of freedom from symptoms since the twelfth birthday, is a cause for rejection.

ABDOMINAL WALL. Hernia of any variety or a history of a recurrent hernia, even though apparently repaired by a second operation, is a cause for rejection.

WAIVERS. Candidates and their parents and sponsors are urged to refrain from requesting waivers for medical defects. The Army bases its decision to disqualify a young man on medical facts revealed in a thorough medical examination. Candidates unable to satisfy the minimum requirements are not suited for commissions in the Regular Army and consequently are not eligible for training at the Military Academy. A request for waiver for medical defect invariably results in disappointment to all concerned.

II. INSTALLATIONS CONDUCTING QUALIFICATION MEDICAL EXAMINATIONS FOR THE U.S. MILITARY ACADEMY

ALABAMA
  Daleville—Fort Rucker
ALASKA
  Anchorage—Elmendorf AFB
ARIZONA
  Cochise County—Fort Huachuca
CALIFORNIA
  Monterey—Fort Ord
  San Diego—USNH
  San Francisco—Letterman GH
  San Pedro—Fort MacArthur
COLORADO
  Denver—Fitzsimons GH
FLORIDA
  Jacksonville—USNH, Naval Air Sta.
  Key West—USNH
  Panama City—Tyndall AFB
  Pensacola—USNH
  Tampa—MacDill AFB
GEORGIA
  Atlanta—Fort McPherson
  Columbus—Fort Benning
  Grovetown—Fort Gordon
  Hinesville—Fort Stewart
HAWAII
  Tripler Army Hospital
IDAHO
  Elmore County—Mountain Home AFB
ILLINOIS
  Highland Park—Fort Sheridan
INDIANA
  Indianapolis—Fort Benjamin Harrison
KANSAS
  Junction City—Fort Riley
  Leavenworth—Fort Leavenworth

KENTUCKY
  Hardin County—Fort Knox
MARYLAND
  Odenton—Fort George G. Meade
MASSACHUSETTS
  Ayer—Fort Devens
  Boston—Army Base
  Chelsea—USNH
MICHIGAN
  Mount Clemens—Selfridge AFB
MISSISSIPPI
  Biloxi—Keesler AFB
MISSOURI
  Waynesville—Fort Leonard Wood
MONTANA
  Great Falls—Malmstrom AFB
NEBRASKA
  Omaha—Offutt AFB
NEVADA
  Las Vegas—Nellis AFB
NEW JERSEY
  Oceanport—Fort Monmouth
  Wrightstown—Fort Dix
NEW MEXICO
  Roswell—Walker AFB
NEW YORK
  Governors Island—Fort Jay
  West Point—US Military Academy
NORTH CAROLINA
  Fayetteville—Fort Bragg
OHIO
  Columbus—Lockbourne AFB
  Dayton—Wright-Patterson AFB
OKLAHOMA
  Lawton—Fort Sill
PENNSYLVANIA
  Carlisle—Carlisle Barracks
  Philadelphia—USNH, 17th and Patterson Ave.
  Phoenixville—Valley Forge GH

PUERTO RICO
  San Juan—Rodriguez AH
RHODE ISLAND
  Newport—USNH
SOUTH CAROLINA
  Columbia—Fort Jackson
SOUTH DAKOTA
  Rapid City—Ellsworth AFB
TENNESSEE
  Clarksville—Fort Campbell
TEXAS
  El Paso—William Beaumont GH
  Killeen—Fort Hood
  San Antonio—Fort Sam Houston
UTAH
  Ogden—Hill AFB
VIRGINIA
  Fairfax County—Fort Belvoir
  Lee Hall—Fort Eustis
  Old Point Comfort—Fort Monroe
  Petersburg—Fort Lee
WASHINGTON
  Tacoma—Fort Lewis
WASHINGTON, D.C.
  Walter Reed GH—Physical Examining Center (Outpatient Clinic)
WYOMING
  Cheyenne—Warren AFB
CANAL ZONE
  Fort Clayton
GERMANY
  Heidelberg, USAH
JAPAN
  Camp Zama

GH—General Hospital AH—Army Hospital AFB—Air Force Base USNH—U.S. Naval Hospital

III. EXAMPLES OF TESTS USED IN THE U.S. MILITARY ACADEMY PHYSICAL APTITUDE EXAMINATION

A combination of the following tests, which result in the candidate using all of his physical facilities, constitutes the Physical Aptitude Examination of the Military Academy. The standards noted should be considered as the minimum performance for each of the tests.

(1)	Basketball Throw for distance using a regulation basketball	80 feet
(2)	Basketball Throw (modified) Regulation basketball is thrown overhand for distance from the kneeling position.	54 feet
(3)	Broad Jump for distance, standing	6 feet, 10 inches
(4)	Broad Jump for distance, three in succession Standing start with 3 successive broad jumps.	22 feet
(5)	Burpee test for 20 seconds Continuous movements from the standing position to the squat, to the leaning rest, to the squat, and back to the standing position.	11½ times
(6)	Dipping on parallel bars Raising and lowering oneself on parallel bars by means of the arms. The body is lowered until upper arm passes the horizontal.	4 times
(7)	Dodge run A run through a maze placed on a gymnasium floor.	25⅕ seconds
(8)	Hop, Step, and Jump With a 10 foot run to a take-off line take a hop, a step, and a jump to gain as great a distance as possible.	23 feet
(9)	Hurdle run A run through a maze placed on a gymnasium floor.	39 seconds
(10)	Medicine Ball Put A 6-pound medicine ball is put using the same movement as required for a shotput.	36 feet

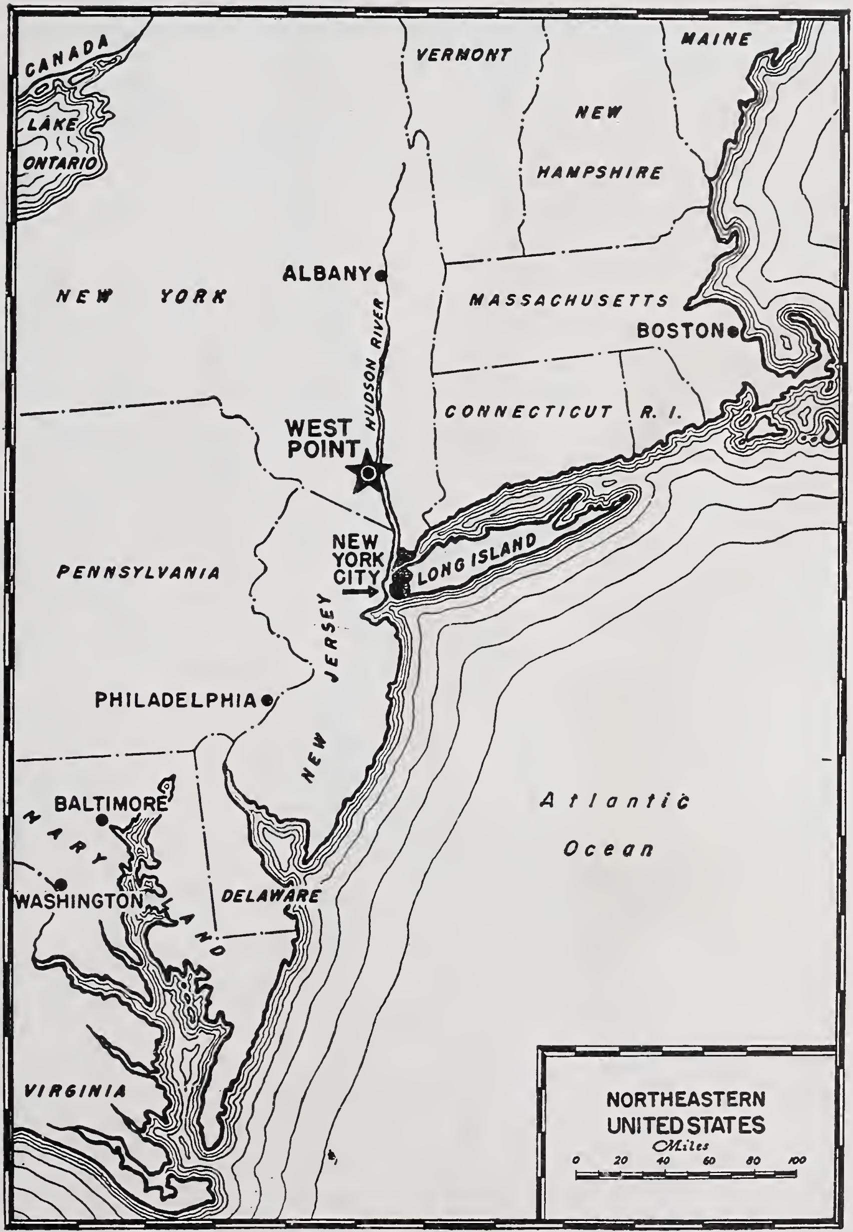
(11) Pull-ups	4 times
Chinning oneself on a horizontal bar, grasping bar with back of hand toward face.	
(12) Push-ups	20 times
Standard push-ups starting from the leaning rest position.	
(13) Rope climb (7 seconds)	13 feet
Climb a regulation gymnasium rope as high as possible in 7 seconds, using hands and feet or hands alone, starting from a standing position.	
(14) Sit-ups (2 minutes)	40 times
These are to be performed with a partner holding the feet.	
(15) Sit-ups (for speed)	24 times
These are to be performed in 30 seconds while lying on a gymnasium mat with toe hooked under a bar.	
(16) Softball Throw	160 feet
For distance using a regulation softball (12-inch circumference).	
(17) Running, shuttle	
This test is a shuttle run on a gymnasium floor between two turning blocks 25 yards apart.	
100 yards	18⅕ seconds
150 yards	26 seconds
250 yards	50 seconds
300 yards	63 seconds
(18) Running 300 yards on indoor track	46 seconds
11 laps to the mile.	
(19) Vault for height, standing	4 feet, 8 inches
From a standing position vault over a horizontal bar by touching it with only the hands using either flank or front vault.	
(20) Vertical Jump	18 inches
The difference between the height an individual can reach and the height he can jump and reach.	

IV. INSTALLATIONS CONDUCTING MARCH ENTRANCE EXAMINATIONS FOR THE U.S. MILITARY ACADEMY

ALASKA
  Anchorage—Elmendorf AFB
ARIZONA
  Cochise County—Fort Huachuca
CALIFORNIA
  Monterey—Fort Ord
  San Francisco—Letterman GH
  San Pedro—Fort MacArthur
COLORADO
  Denver—Fitzsimons GH
FLORIDA
  Tampa—MacDill AFB
GEORGIA
  Atlanta—Fort McPherson
  Columbus—Fort Benning
HAWAII
  Tripler Army Hospital
ILLINOIS
  Highland Park—Fort Sheridan
INDIANA
  Indianapolis—Fort Benjamin Harrison
KANSAS
  Leavenworth—Fort Leavenworth
KENTUCKY
  Hardin County—Fort Knox
MASSACHUSETTS
  Ayer—Fort Devens
MICHIGAN
  Mount Clemens—Selfridge AFB
MISSISSIPPI
  Biloxi—Keesler AFB
MISSOURI
  Waynesville—Fort Leonard Wood
NEW JERSEY
  Wrightstown—Fort Dix
NEW YORK
  Governors Island—Fort Jay

NORTH CAROLINA
  Fayetteville—Fort Bragg
OHIO
  Columbus—Lockbourne AFB
OKLAHOMA
  Lawton—Fort Sill
PENNSYLVANIA
  Carlisle—Carlisle Barracks
  Phoenixville—Valley Forge GH
PUERTO RICO
  San Juan—Rodriguez AH
SOUTH CAROLINA
  Columbia—Fort Jackson
TENNESSEE
  Clarksville—Fort Campbell
TEXAS
  El Paso—William Beaumont GH
  San Antonio—Fort Sam Houston
UTAH
  Ogden—Hill AFB
VIRGINIA
  Fairfax County—Fort Belvoir
WASHINGTON
  Tacoma—Fort Lewis
WASHINGTON, D.C.
  Walter Reed GH—Physical Examining Section (Outpatient Clinic)
CANAL ZONE
  Fort Clayton
GERMANY
  Heidelberg, USAH
JAPAN
  Camp Zama

GH—General Hospital AH—Army Hospital AFB—Air Force Base


CANADA
LAKE ONTARIO
VERMONT
MAINE
NEW HAMPSHIRE
NEW YORK
ALBANY
HUDSON RIVER
MASSACHUSETTS
BOSTON
CONNECTICUT
R. I.
WEST POINT
NEW YORK CITY
LONG ISLAND
PENNSYLVANIA
NEW JERSEY
PHILADELPHIA
BALTIMORE
MARYLAND
WASHINGTON
DELAWARE
VIRGINIA
Atlantic Ocean
NORTHEASTERN UNITED STATES
Miles
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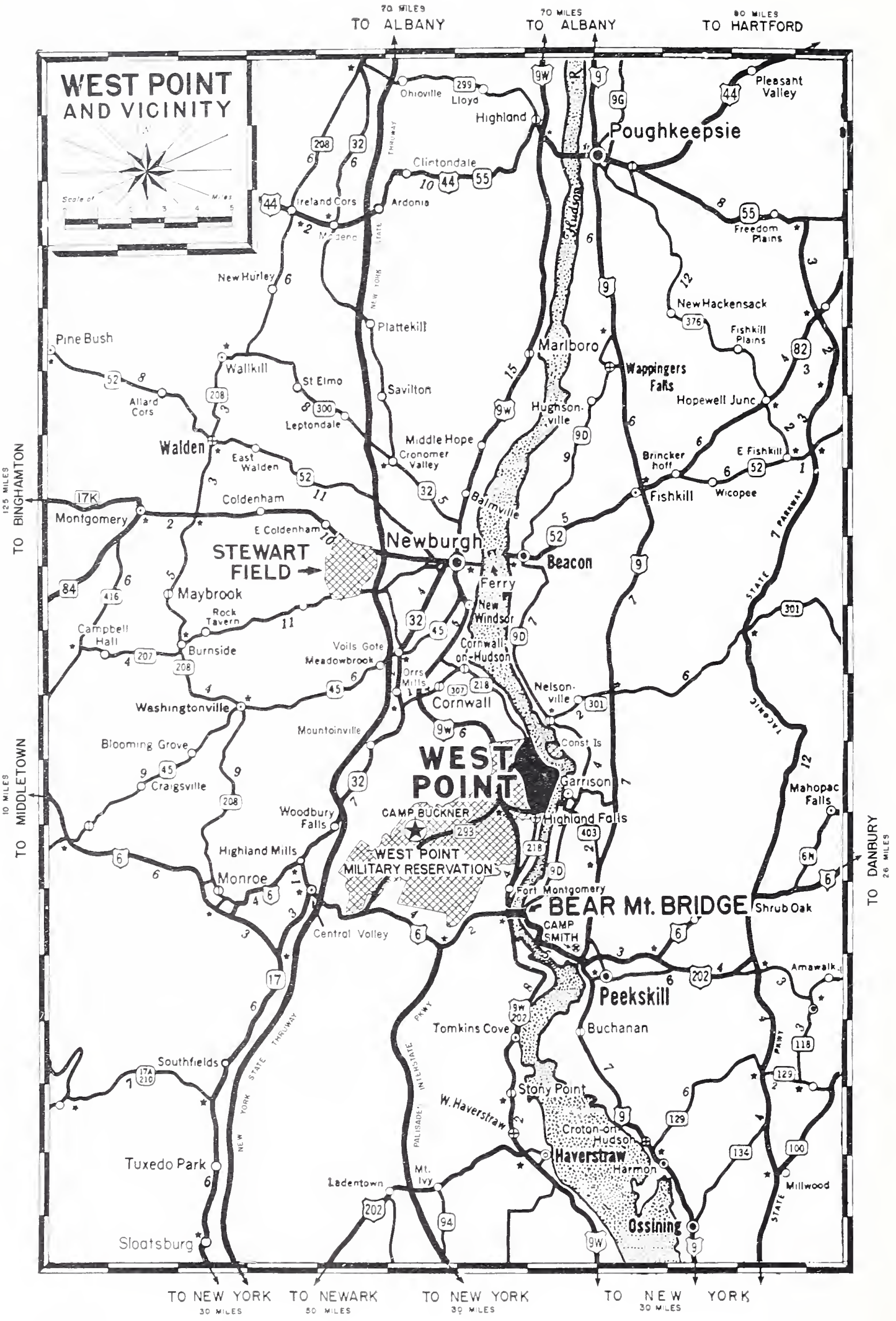
WEST POINT AND VICINITY
Scale of Miles
0 1 2 3 4 5
70 MILES TO ALBANY
70 MILES TO ALBANY
80 MILES TO HARTFORD
125 MILES TO BINGHAMTON
10 MILES TO MIDDLETOWN
TO DANBURY 26 MILES
TO NEW YORK 30 MILES
TO NEWARK 50 MILES
TO NEW YORK 30 MILES
TO NEW YORK 30 MILES
Ohioville
Lloyd
Highland
Poughkeepsie
Pleasant Valley
Clintondale
Ardonia
Ireland Cors
Modena
New Hurley
Pine Bush
Wallkill
St Elmo
Leptondale
Allard Cors
Walden
East Walden
Plattekill
Savilton
Middle Hope
Cronomer Valley
Marlboro
Wappingers Falls
Hughsonville
Freedom Plains
New Hackensack
Fishkill Plains
Hopewell Junc
Brinckerhoff
E Fishkill
Fishkill
Wicopee
Coldenham
E Coldenham
Montgomery
STEWART FIELD
Newburgh
Balmville
Beacon
Ferry
New Windsor
Maybrook
Rock Tavern
Campbell Hall
Burnside
Vails Gate
Meadowbrook
Cornwall-on-Hudson
Orrs Mills
Cornwall
Nelsonville
Washingtonville
Mountainville
Blooming Grove
Craigsville
Const Is
Garrison
WEST POINT
CAMP BUCKNER
WEST POINT MILITARY RESERVATION
Highland Falls
Woodbury Falls
Highland Mills
Monroe
Central Valley
Fort Montgomery
BEAR Mt. BRIDGE
CAMP SMITH
Shrub Oak
Mahopac Falls
Amawalk
Peekskill
Buchanan
Tomkins Cove
Stony Point
W. Haverstraw
Croton-on-Hudson
Haverstraw
Harmon
Ossining
Millwood
Southfields
Tuxedo Park
Sloatsburg
Ladentown
Mt. Ivy
Hudson R
NEW YORK STATE THRUWAY
PALISADES INTERSTATE PKWY
TACONIC STATE PARKWAY
9W
9
9G
44
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208
32
52
300
17K
84
416
207
45
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403
9D
301
376
82
6N
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17A 210
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